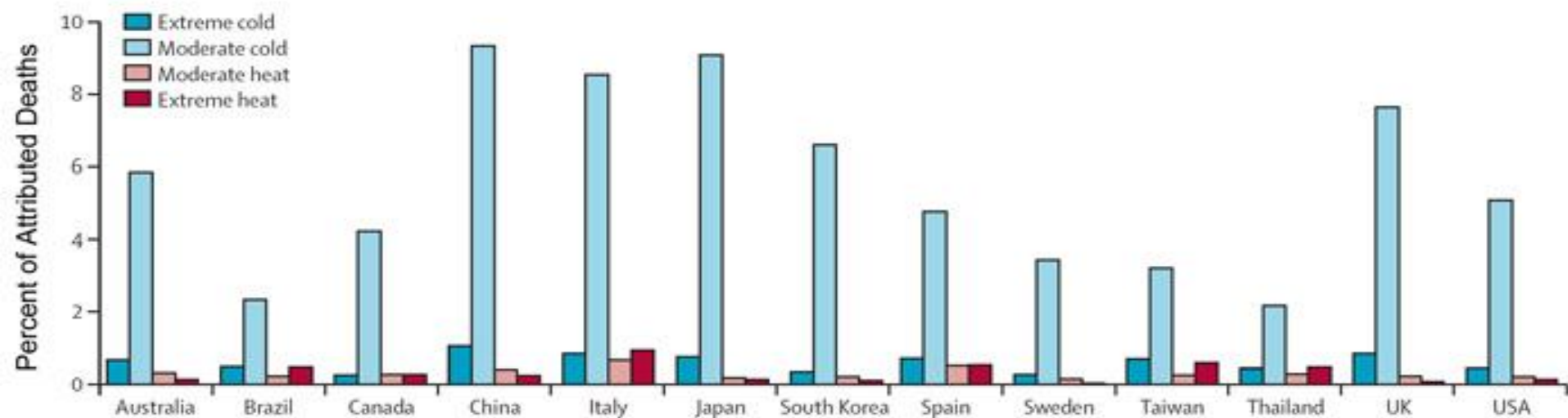


Unfinished business from Week One: Hurricanes Stronger? Harvey? Sea Level Rise Measurements

Percent of Deaths Due to Moderate and Extreme Episodes of Heat and Cold



Bob Endlich

[*bendlich@msn.com*](mailto:bendlich@msn.com)

20 September 2017

Weather Climate and Climate Change—What the Data Say

Fifty-One Years Ago Today...

B-52 Forecaster, Operation ARC LIGHT

Andersen AFB, Guam, 6 Months



B-52D with Big Belly Mod 108 500# bombs



They called us "Heavy Artillery."

Today's Class Outline

Current Weather Briefing and upper air measurements discussion
Remnants of Hurricane Dolly over the area in 2008

Unfinished Business from WEEK ONE:

Joe Bastardi's post on Hurricane Harvey NOT being caused or made worse by "Global Warming"

Comment by class member that present hurricanes are stronger than before... because of atmospheric CO₂...

Is Carbon Dioxide (being added to the atmosphere) harmful?

Brief review of Sea Level Rise: Data says it's NOT Anthropogenic

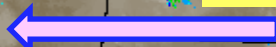
Telling linear data vs. acceleration data-- in Cartesian (X,Y) coordinates

Next slides: August, 2016 Floods in Louisiana, CO₂-Enhanced?

Current Weather Briefing...

Starting with last Sunday Evening:

Snow on the ground



http://wxweb.meteostar.com/models/noaaport_loop.php?PATH=/var/www/leads_images/satellite/SYS/COMP/

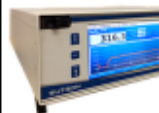
Sunday 17 Sep 2017 0030Z
Tropical Storm Norma



Hurricane Jose



Ozone Ana



SO2 Analy



Gas Calibr



Portabl
Photome



Portabl
Gas Calibr
with Phot



Clean Air S



Portabl
Gas Calibr



■ SYS DERIVED IMAGE BASE REFLECTIVITY OVER NOAAPORT IR Sun 17 Sep 2017 00:30

-43.0

5.0

15.0

25.0

35.0

45.0

55.0

65.0

80.0

52.5

-109.0

10.0

20.0

30.0

40.0

50.0

60.0

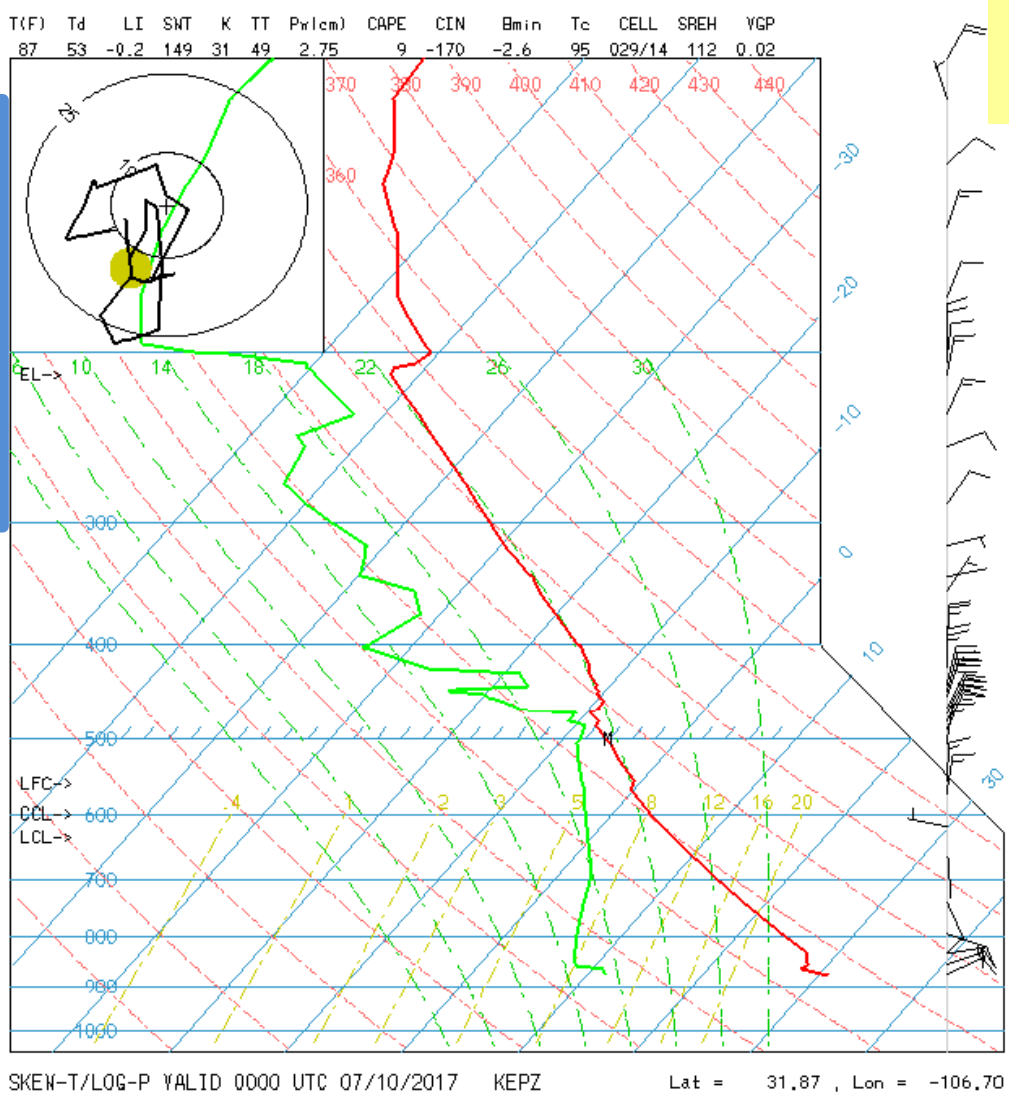
70.0

“Graph paper” for Meteorologists

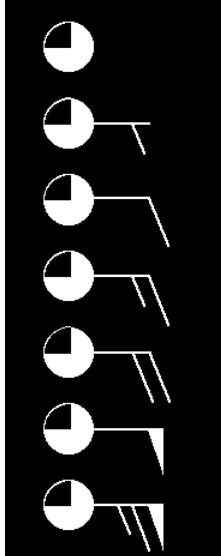
The RED line is the temperature from the weather balloon sounding

Also in Blue
in the Vertical
Pressures decrease logarithmically

The GREEN LINE is the Dew Point temperature from the same sounding.



Skewed Temperatures in Blue

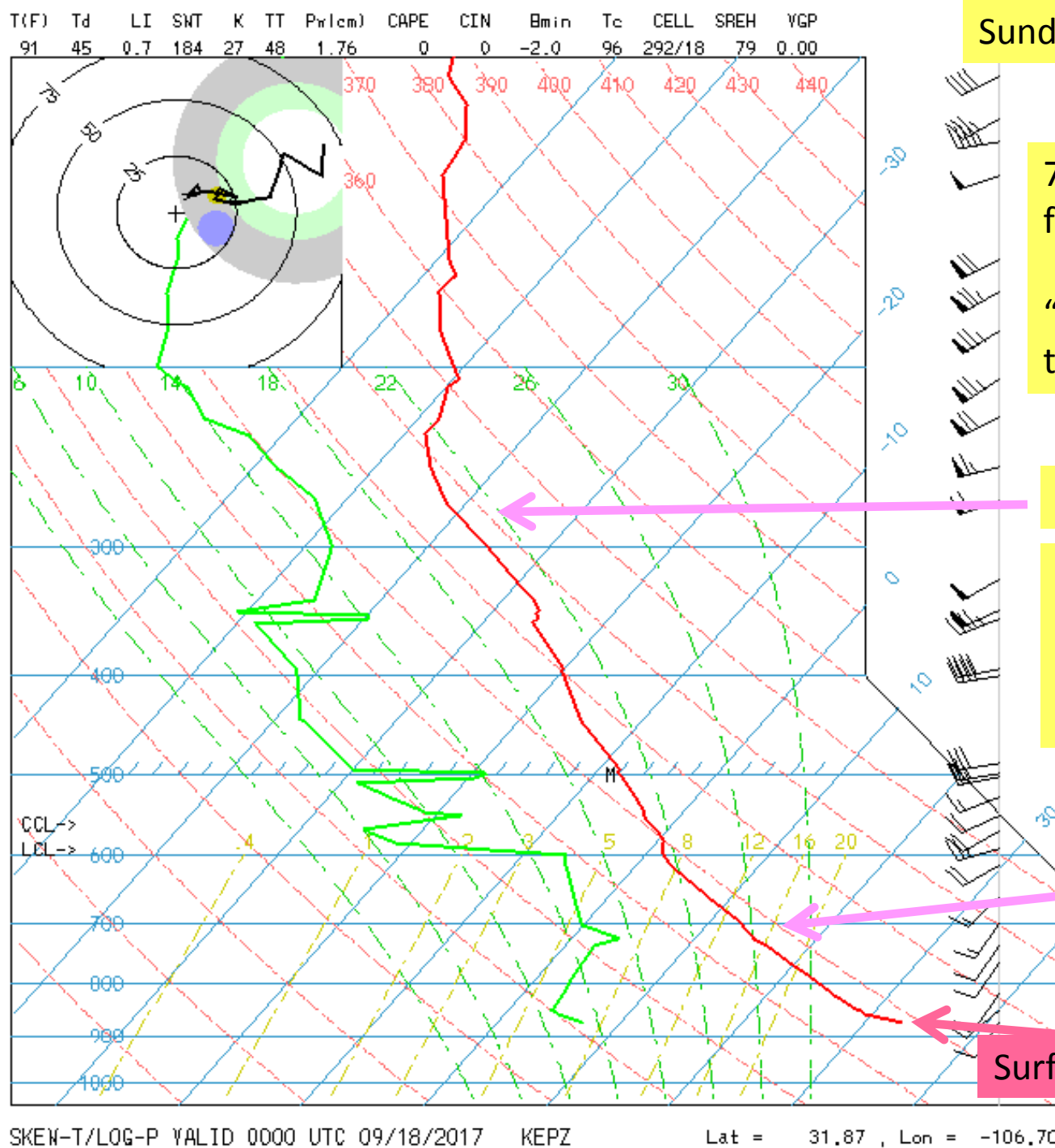


Calm
5 Knots
10 Knots
15 Knots
20 Knots
50 Knots
65 Knots

Department of Atmospheric Sciences
University of Illinois at Urbana-Champaign

The Skew-T allows easy calculation of dozens of thermodynamic variables
Equal Area represents Equal Energy

Sunday Evening's Sounding



75-knots very strong
for very late summer!

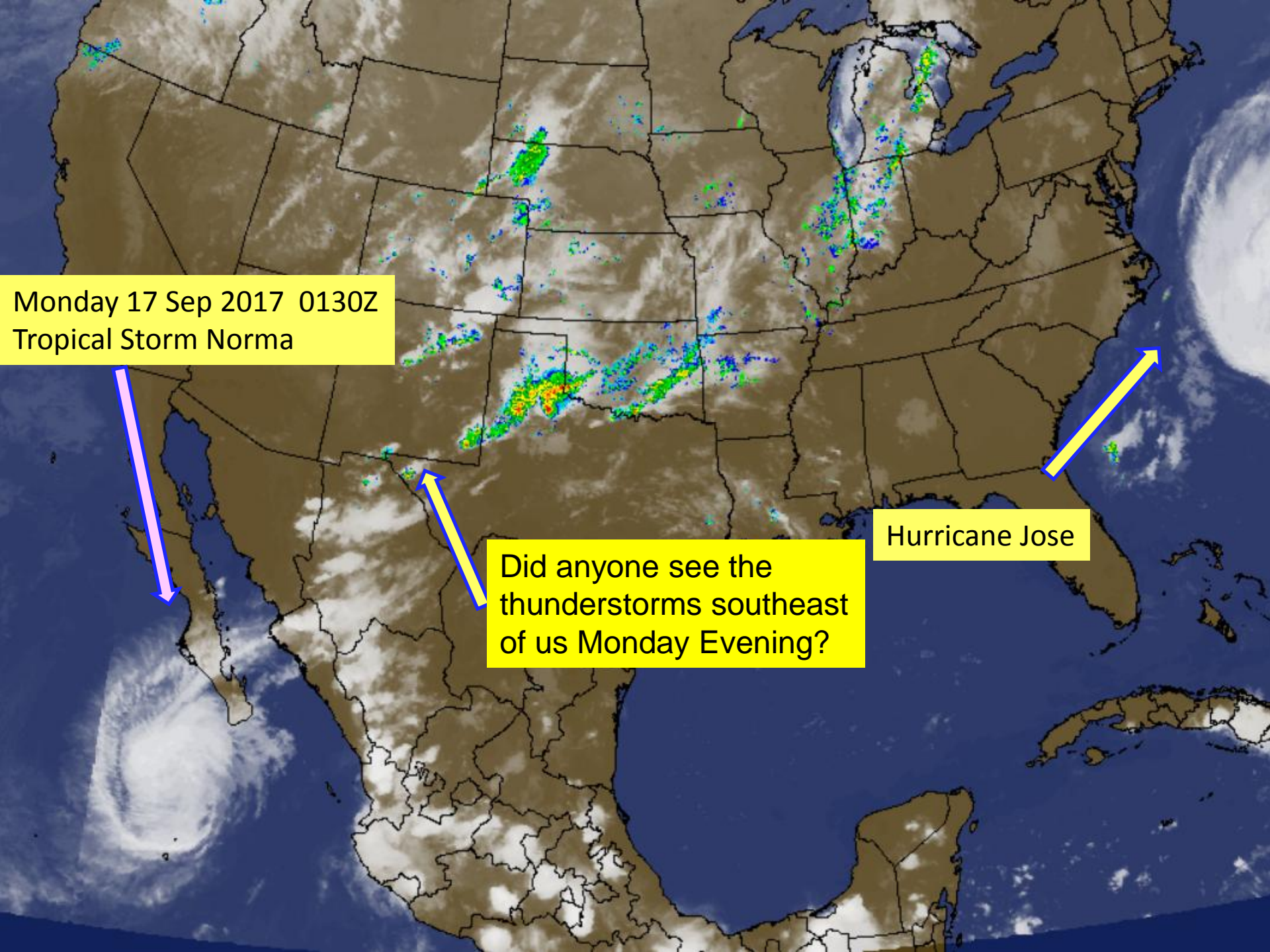
“Leaved,” ...multiple
tropopauses

Dry Adiabatic Layer

Nearby:
Towering Cumulus/
Cumulonimbus
Clouds

Dry Adiabatic Layer

Surface Layer Superadiabatic



Monday 17 Sep 2017 0130Z
Tropical Storm Norma

Hurricane Jose

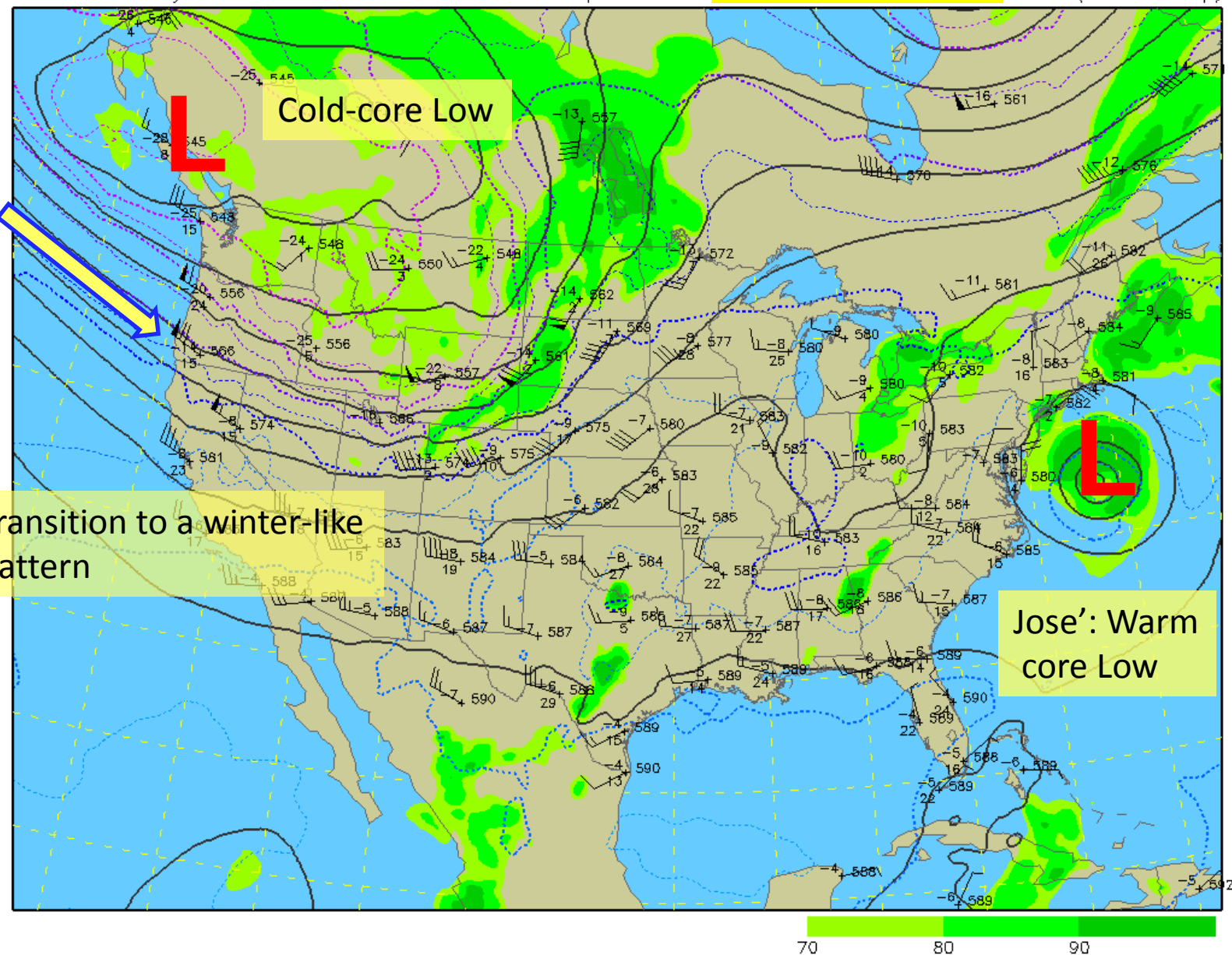
Did anyone see the
thunderstorms southeast
of us Monday Evening?

500 mb Heights (dm) / Temperature ($^{\circ}\text{C}$) / Humidity (%)

0-hour analysis valid 0000 UTC Wed 20 Sep 2017

Tuesday Evening

RAP (00z 20 Sep)



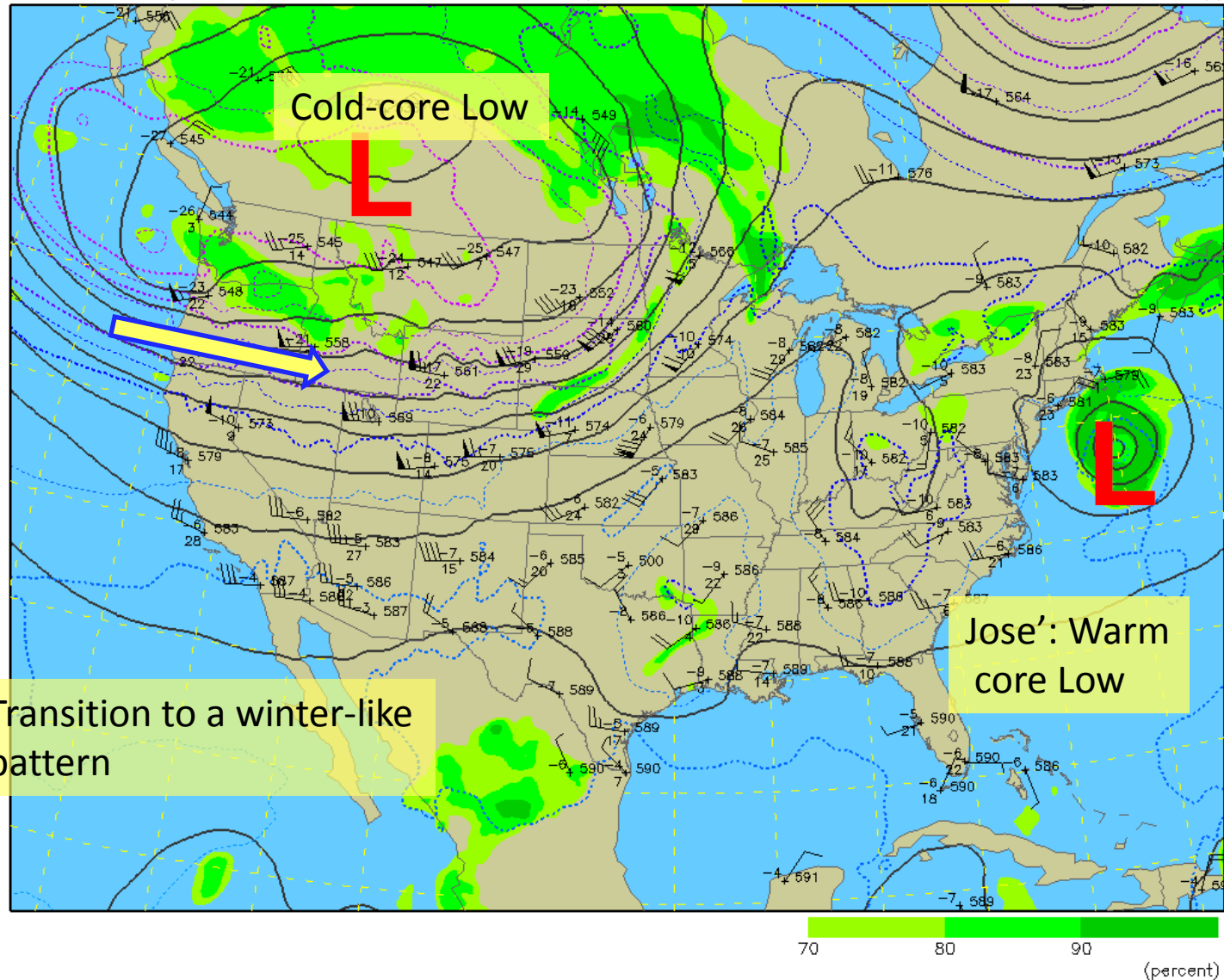
500 mb rawinsonde data 12z Wed 20 Sep 2017

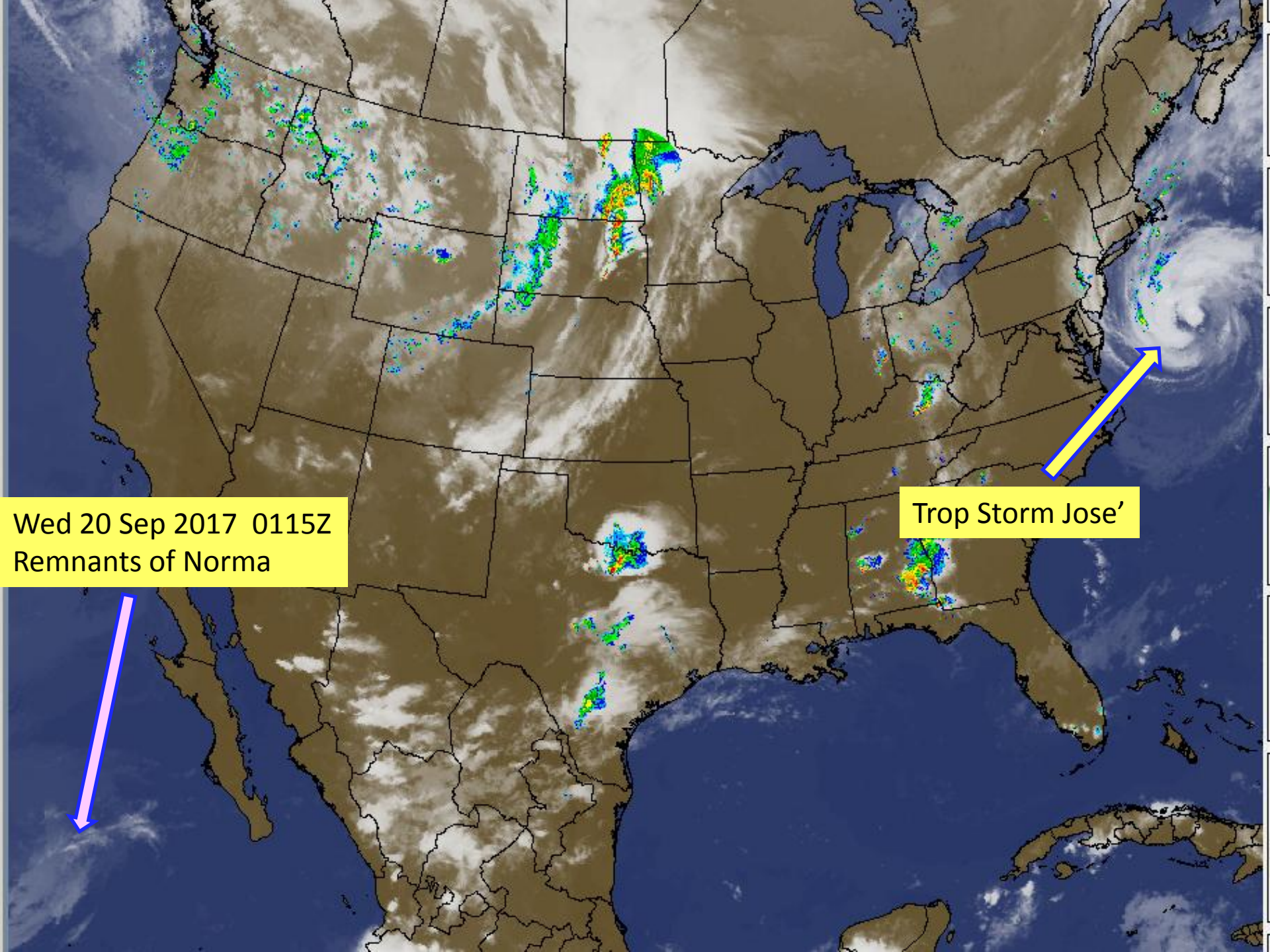
500 mb Heights (dm) / Temperature (°C) / Humidity (%)

0-hour analysis valid 1200 UTC Wed 20 Sep 2017

This Morning

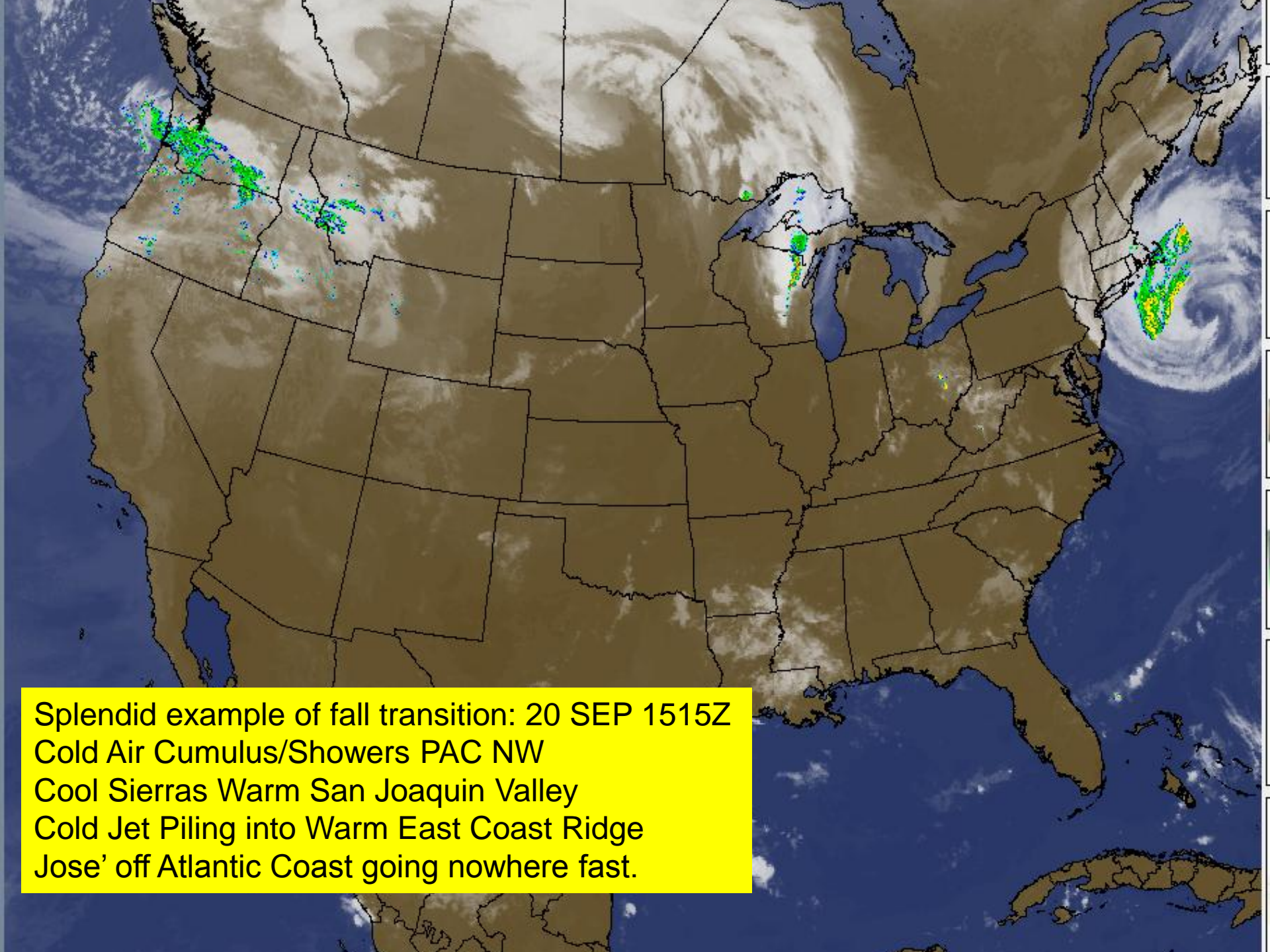
RAP (12z 20 Sep)





Wed 20 Sep 2017 0115Z
Remnants of Norma

Trop Storm Jose'



Splendid example of fall transition: 20 SEP 1515Z
Cold Air Cumulus/Showers PAC NW
Cool Sierras Warm San Joaquin Valley
Cold Jet Piling into Warm East Coast Ridge
Jose' off Atlantic Coast going nowhere fast.



NCAR RAL Real-Time Weather Data

Home / RAL :

[Weather Home](#)

[Satellite](#)

[Radar](#)

[Surface](#)

[Upper-Air](#)

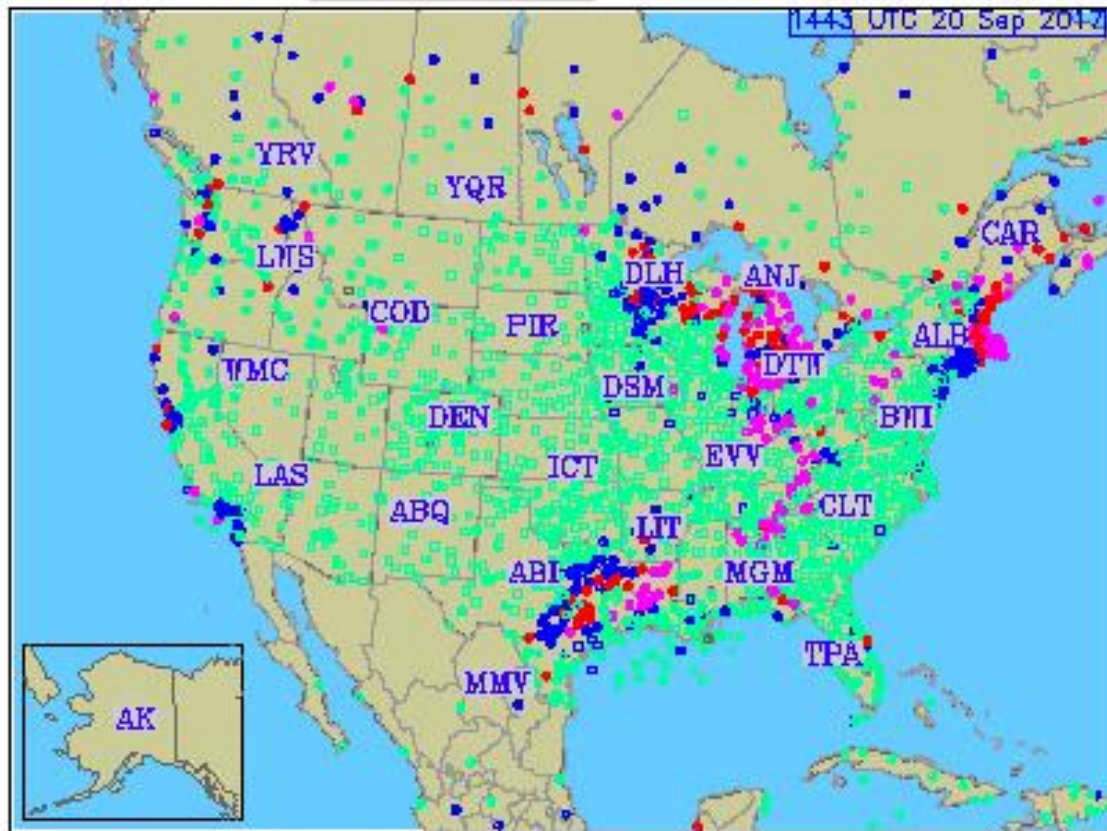
[Forecast](#)

End date:

End time:

Loop duration:

<http://weather.rap.ucar.edu/surface/>



Horizontal Weather Depiction

Sometimes “HWD”

Red Allows rapid identification
of threatening weather.

Similar to Military Situation Map

Magenta = even worse

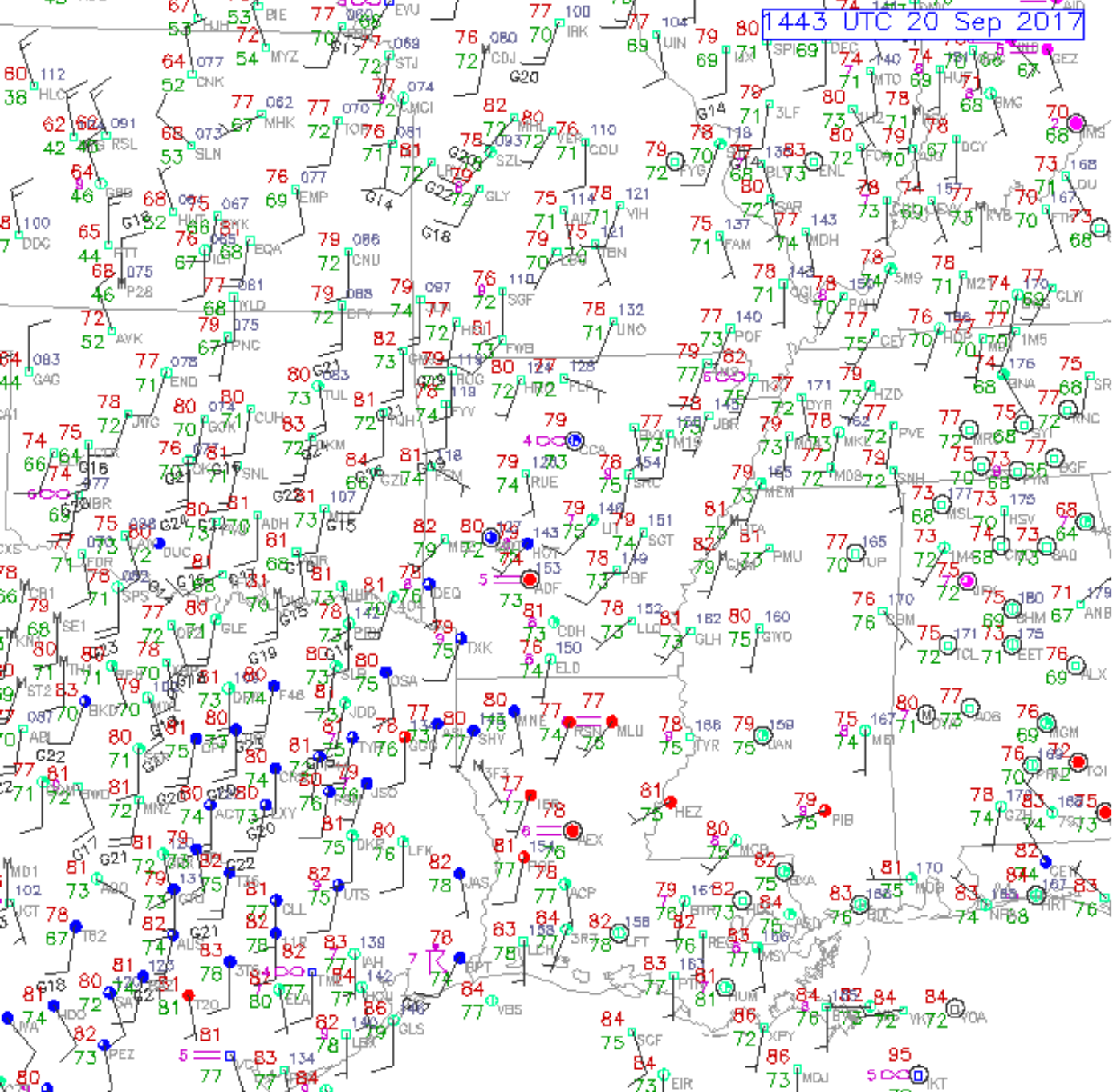
• **Flight category definitions:**

Category	Ceiling		Visibility
Low Instrument Flight Rules LIFR* (magenta circle)	below 500 feet AGL	and/or	less than 1 mile
Instrument Flight Rules IFR (red circle)	500 to below 1,000 feet AGL	and/or	1 mile to less than 3 miles
Marginal Visual Flight Rules MVFR (blue circle)	1,000 to 3,000 feet AGL	and/or	3 to 5 miles
Visual Flight Rules VFR* (green circle)	greater than 3,000 feet AGL	and	greater than 5 miles
<p>*By definition, IFR is ceiling less than 1,000 feet AGL and/or visibility less than 3 miles while LIFR is a sub-category of IFR.</p> <p>*By definition, VFR is ceiling greater than or equal to 1,000 feet AGL and visibility greater than or equal to 3 miles while MVFR is a sub-category of VFR.</p>			

• **Cloud coverage symbols:**

M	□	○	①	☉	●	●	⊗
missing	CLR	SKC	FEW	SCT	BKN	OVC	OVX

Automated stations report "CLR" when clouds may exist above 12,000 feet so a square is used to represent this uncertainty whereas an unfilled circle is used for "SKC" which a human reports the sky is completely clear overhead. The abbreviation "OVX" is unofficial but we use it here to indicate the sky is obscured which is the case when a METAR reports vertical visibility and no cloud information.



METAR text: **KAEX 201448Z 17007KT 8SM SCT010 OVC015 28/24 A2999 RMK AO2**

Conditions at: KAEX (ALEXANDRIA , LA, US) observed 1448 UTC 20 September 2017

Temperature: 28.0°C (82°F)

Dewpoint: 24.0°C (75°F) [RH = 79%]

Pressure (altimeter): 29.99 inches Hg (1015.7 mb)

Winds: from the S (170 degrees) at 8 MPH (7 knots; 3.6 m/s)

Visibility: 8 miles (13 km)

Ceiling: 1500 feet AGL

Clouds: scattered clouds at 1000 feet AGL
overcast cloud deck at 1500 feet AGL

Weather: no significant weather observed at this time

METAR text: **KAEX 201416Z 00000KT 6SM BR OVC006 26/24 A2999 RMK AO2 CIG 004V009 T02560244**

Conditions at: KAEX (ALEXANDRIA , LA, US) observed 1416 UTC 20 September 2017

Temperature: 25.6°C (78°F)

Dewpoint: 24.4°C (76°F) [RH = 93%]

Pressure (altimeter): 29.99 inches Hg (1015.7 mb)

Winds: calm

Visibility: 6 miles (10 km)

Ceiling: 600 feet AGL

Clouds: overcast cloud deck at 600 feet AGL

Weather: BR (mist)

METAR text: **KAEX 201353Z 00000KT 4SM BR OVC004 24/24 A2998 RMK AO2 SLP156 T02440244**

Conditions at: KAEX (ALEXANDRIA , LA, US) observed 1353 UTC 20 September 2017

Temperature: 24.4°C (76°F)

Dewpoint: 24.4°C (76°F) [RH = 100%]

Pressure (altimeter): 29.98 inches Hg (1015.3 mb)
[Sea-level pressure: 1015.6 mb]

Winds: calm

Visibility: 4 miles (6 km)

Ceiling: 400 feet AGL

Clouds: overcast cloud deck at 400 feet AGL

Weather: BR (mist)

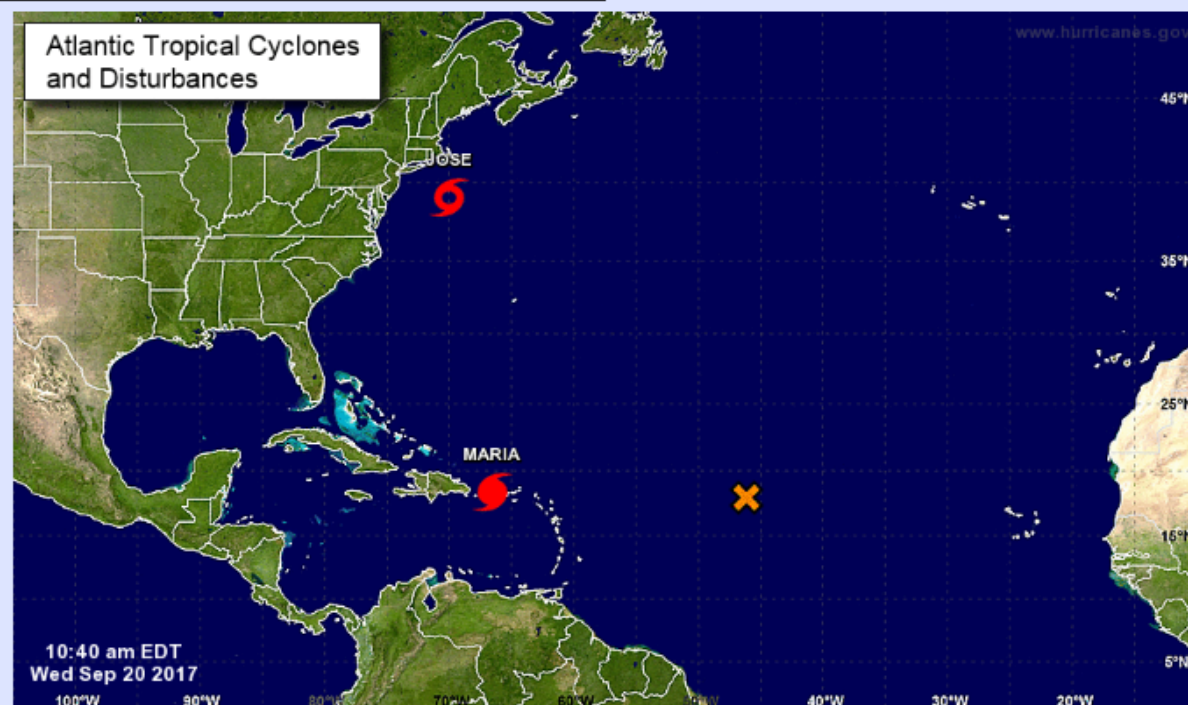


- **NHC issuing advisories for the Atlantic on TS Jose and Hurricane Maria**
- [Key Messages regarding Tropical Storm Jose](#)
- [Key Messages regarding Hurricane Maria](#)

<http://www.nhc.noaa.gov/>

Eastern North Pacific

Atlantic



Current Disturbances and Two-Day Cyclone Formation Chance: ✖ < 40% ✖ 40-60% ✖ > 60%

Tropical or Sub-Tropical Cyclone: ○ Depression ○ Storm ○ Hurricane

⊗ Post-Tropical Cyclone ✖ Remnants

[Active Storms](#) | [Marine Forecasts](#)[2-Day Graphical Tropical Weather Outlook](#) | [5-Day Graphical Tropical Weather Outlook](#)

Atlantic - Caribbean Sea - Gulf of Mexico

[Tropical Weather Outlook \(en Español*\)](#)

800 AM EDT Wed Sep 20 2017

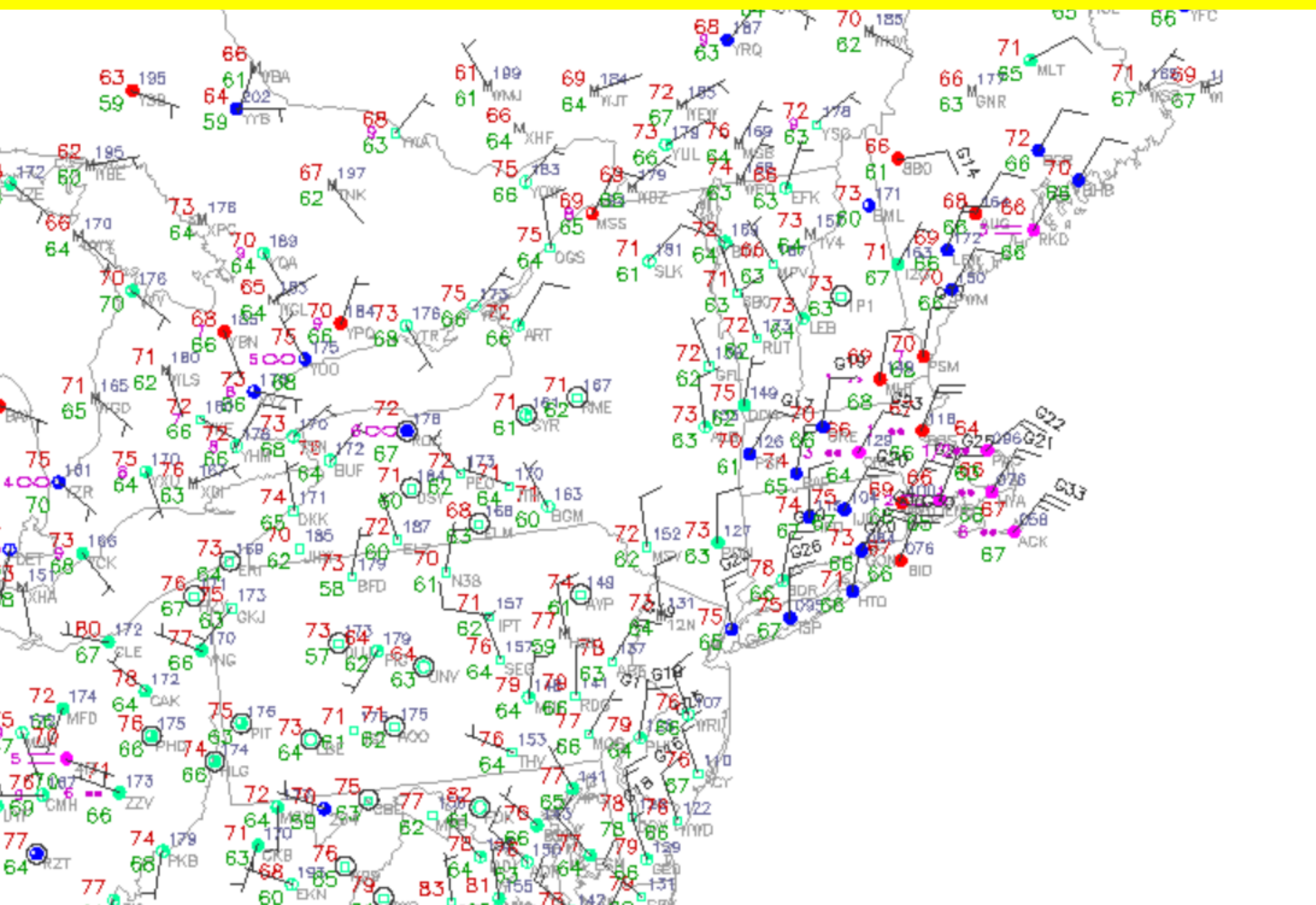
[Tropical Weather Discussion](#)

706 AM EDT Wed Sep 20 2017

○ Tropical Storm Jose

[Satellite](#) | [Buoys](#) | [Grids](#) | [Storm Archive](#)

...AIR FORCE HURRICANE HUNTERS INDICATE THAT JOSE IS A STRONG TROPICAL STORM... DANGEROUS SURF AND RIP CURRENTS EXPECTED TO CONTINUE FOR SEVERAL MORE DAYS ALONG MUCH OF THE EAST COAST OF THE UNITED STATES...



Aviation Digital Data Service (ADDS)

Output produced by TAFs form (1556 UTC 20 September 2017)
found at <http://www.aviationweather.gov/adds/tafs/>

METAR text: KACK 201553Z 04022G30KT 3SM BR OVC002 19/19 A2968 RMK AO2 PK WND 05035/1455 RAE39 SLP050 P0002 T01940194

Conditions at: KACK (NANTUCKET , MA, US) observed 1553 UTC 20 September 2017

Temperature: 19.4°C (67°F)

Dewpoint: 19.4°C (67°F) [RH = 100%]

Pressure (altimeter): 29.68 inches Hg (1005.2 mb)
[Sea-level pressure: 1005.0 mb]

Winds: from the NE (40 degrees) at 25 MPH (22 knots; 11.4 m/s)
gusting to 34 MPH (30 knots; 15.6 m/s)

Visibility: 3 miles (5 km)

Ceiling: 200 feet AGL

Clouds: overcast cloud deck at 200 feet AGL

Weather: BR (mist)

Forecast for: KACK (NANTUCKET , MA, US)

Text: KACK 201120Z 2012/2112 05020G30KT 4SM SHRA BR VCTS OVC002CB

Forecast period: 1200 to 1600 UTC 20 September 2017

Forecast type: FROM: standard forecast or significant change

Winds: from the NE (50 degrees) at 23 MPH (20 knots; 10.4 m/s)
gusting to 34 MPH (30 knots; 15.6 m/s)

Visibility: 4 miles (6 km)

Ceiling: 200 feet AGL

Clouds: overcast cloud deck at 200 feet AGL

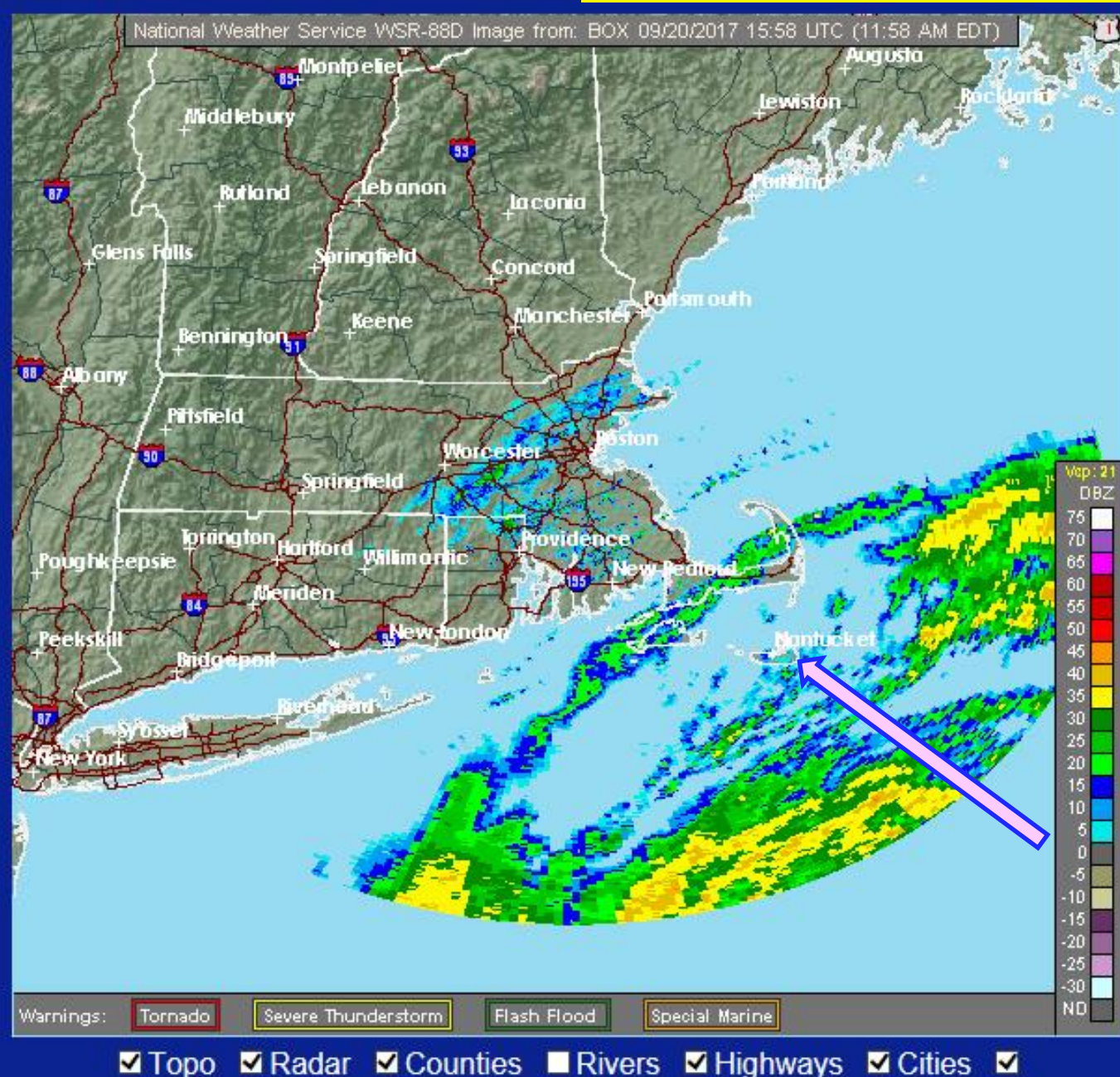
Weather: SHRA BR VCTS (rain showers, mist, thunderstorm in vicinity)

Text: FM201600 04031G42KT 3SM SHRA BR VCTS OVC008CB WS020/06055KT

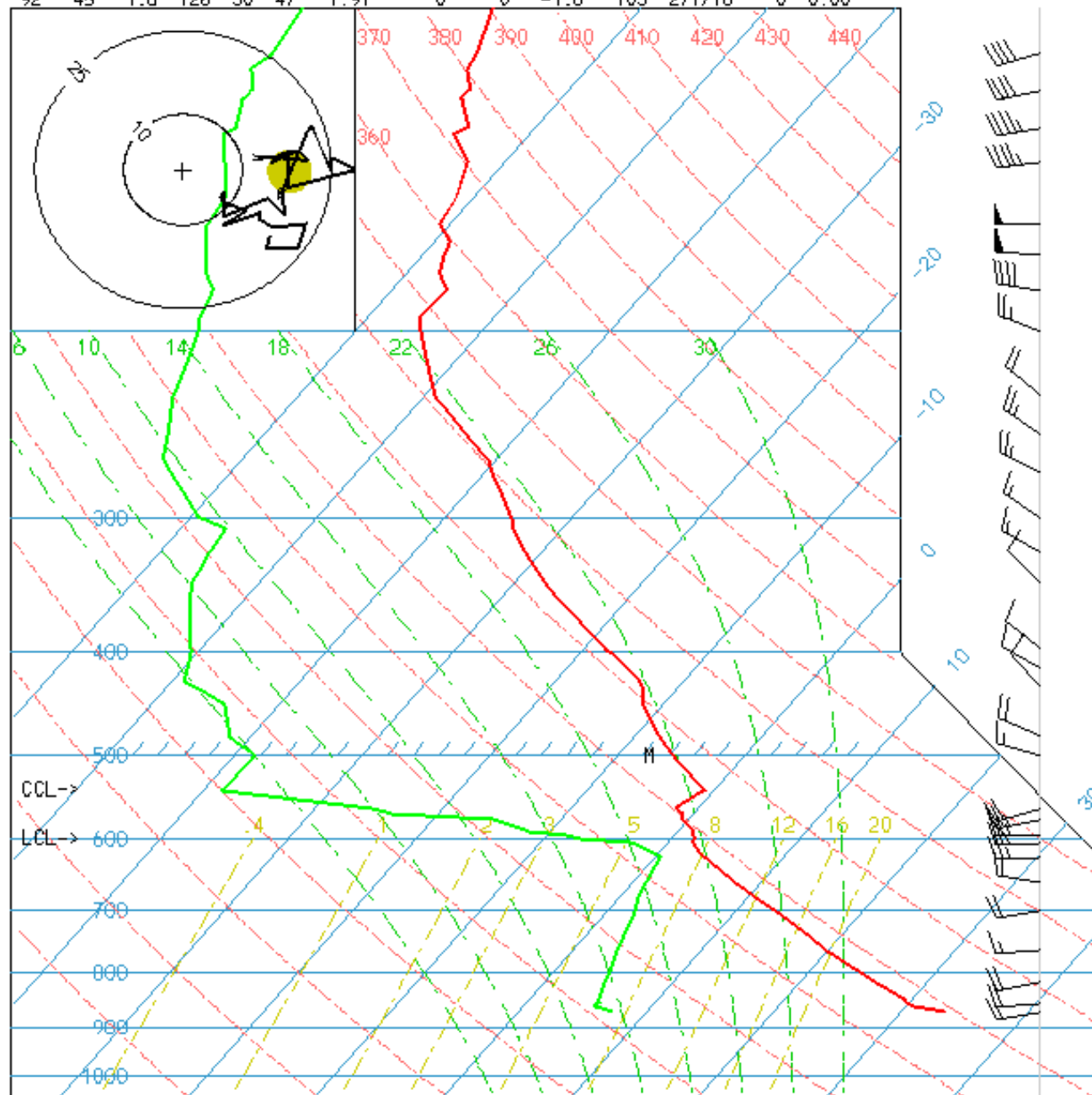
Forecast period: 1600 to 2200 UTC 20 September 2017

Forecast type: FROM: standard forecast or significant change

Winds: from the NE (40 degrees) at 36 MPH (31 knots; 16.1 m/s)



T(F) Td LI SWT K TT Pw(m) CAPE CIN Bmin Tc CELL SREH VGP
 92 45 1.8 126 30 47 1.91 0 0 -1.8 103 271/18 0 0.00



KEYZ Tuesday Evening Sounding 20/0000Z SEP 2017

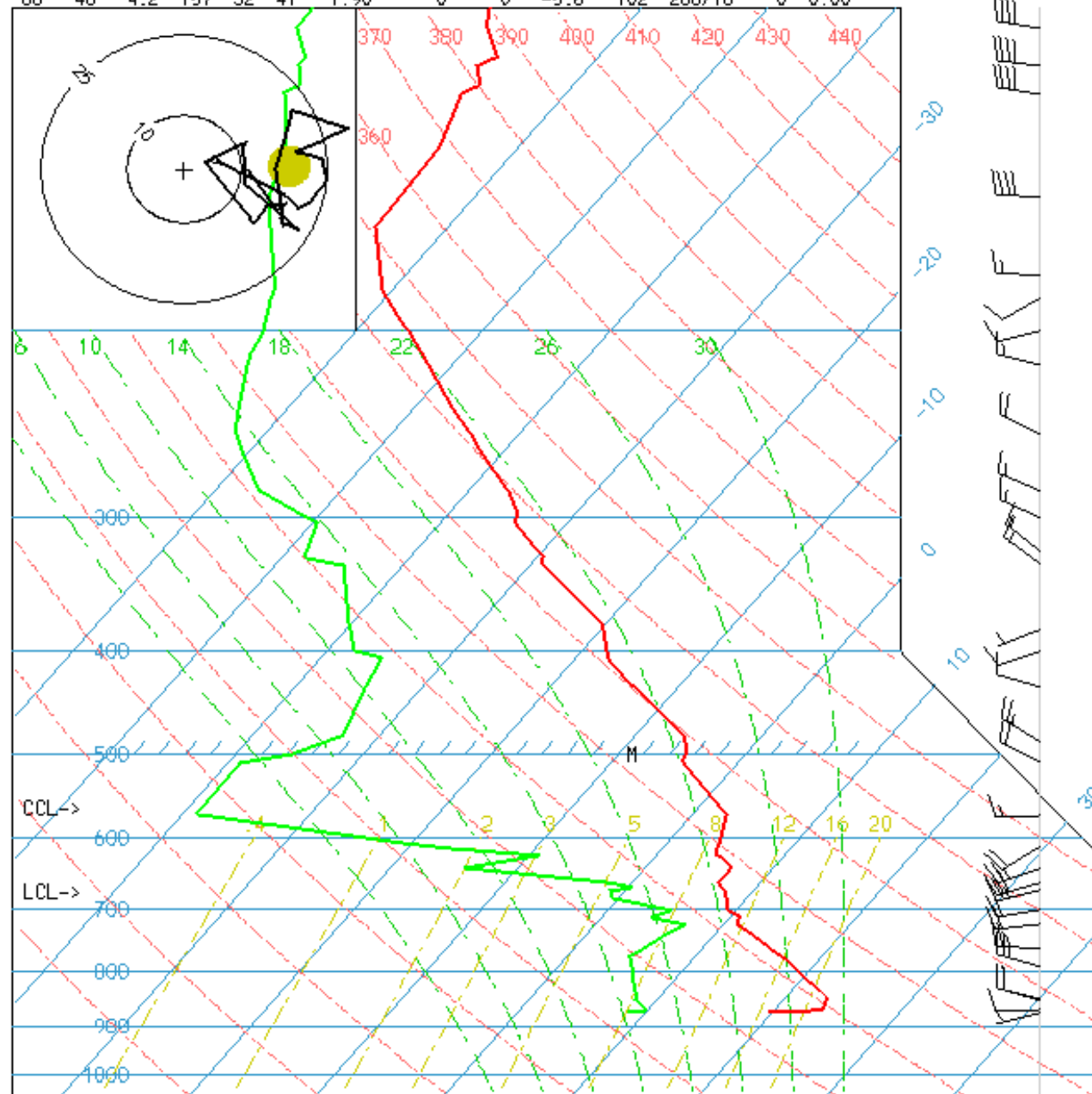
Tropopause
194 MB, 12555 M
or 41,200 ft

Dry Troposphere

Subsidence
Inversion
16,000-17,000 ft

Unstable PBL
Sfc-600 mb about
13,000 ft MSL
Sfc Lyr:
104 m thick
~ 340 ft

T(F) Td LI SWT K TT P(h)cm CAPE CIN Bmin Tc CELL SREH VGP
 68 48 4.2 157 32 41 1.90 0 0 -5.6 102 268/18 0 0.00



SKW-T/LOG-P VALID 1200 UTC 09/20/2017 KEYZ

Lat = 31.87 , Lon = -106.70

KEYZ Wednesday
 Morning Sounding
 20/1200Z SEP 2017

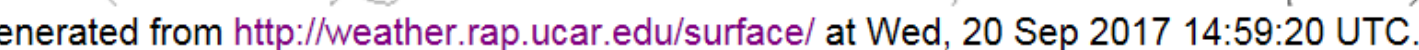
Tropopause 165 mb
 13767 M =45,200 Ft

Dry Troposphere

Multiple Subsidence
 Inversions

Stable PBL

Sfc Lyr: extends to
 5000 ft MSL
 Airport 4111 ft MSL
 ~890 Ft thick



JCT Td = 81



Local forecast
by
City, State or Zip

City, State

Go

RSS

Feeds

Area Forecast Discussion

Issued by NWS

[Current Version](#) | [Previous Version](#) | [Text Only](#) | [Print](#) | [Product List](#) | [Glossary Off](#)

Versions: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#) [20](#) [21](#) [22](#) [23](#) [24](#) [25](#) [26](#) [27](#) [28](#)

425
FXUS64 KEPZ 201045
AFDEPZ

<http://forecast.weather.gov/product.php?site=NWS&issuedby=EPZ&product=AFD&format=CI&version=1&glossary=1>

Area Forecast Discussion

National Weather Service El Paso Tx/Santa Teresa [NM](#)
445 AM MDT Wed Sep 20 2017

.SYNOPSIS...

We will be dry and warm the next couple of days, then [moisture](#) and a [slight chance](#) for rain east of the Rio Grande returns to the area for Friday and Saturday. We will be drier and cooler on Sunday and then rain chances return for the first of next week.

&&

.DISCUSSION...

For so long this summer we had to deal with an [upper level ridge](#) anchored over the Four Corners region, but for this week we will be dealing with an [upper level trough](#) anchored over the Four Corners region. The main long wave [trough](#) stays centered over the western U.S., but short waves moving through the [trough](#) will occasionally dash across the area to make our weather a little more interesting. For the next couple of days the dry air will dominate so we will be sunny and warm today and Thursday. Temperatures today and tomorrow will run 8 to 10 degrees above average.

For Friday and Saturday the [upper level trough](#) just to our west is



National Weather Service National Headquarters

National Weather Service



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[Site Map](#)

[News](#)

[Organization](#)

Search for:

☐ NWS ☐ All NOAA

Local forecast
by
City, St or Zip

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Feeds

DISCUSSION... For so long this summer we had to deal with an [upper level ridge](#) anchored over the Four Corners region, but for this week we will be dealing with an [upper level trough](#) anchored over the Four Corners region

The main long wave [trough](#) stays centered over the western U.S., but short waves moving through the [trough](#) will occasionally dash across the area to make our weather a little more interesting.

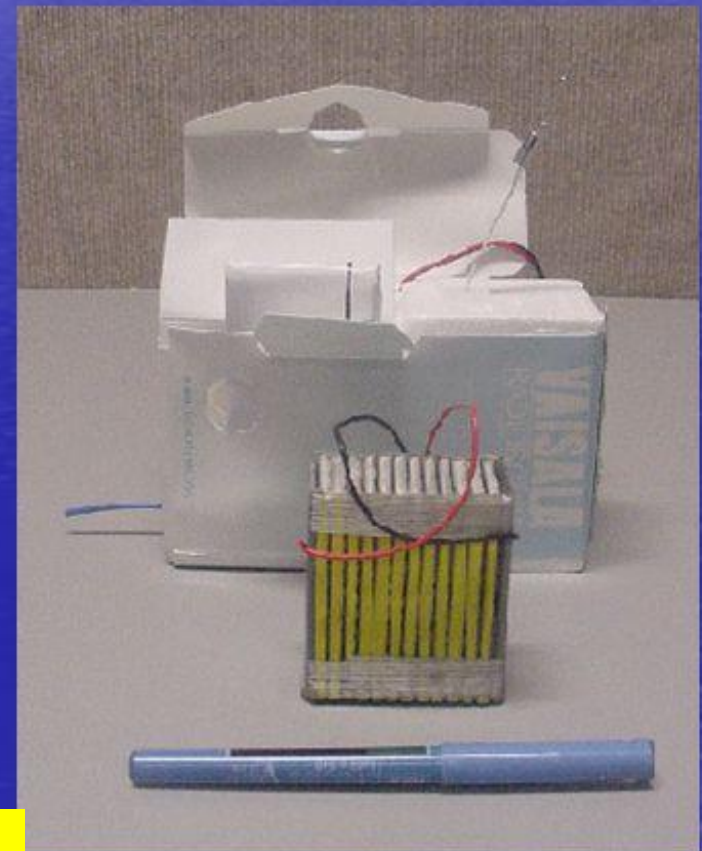
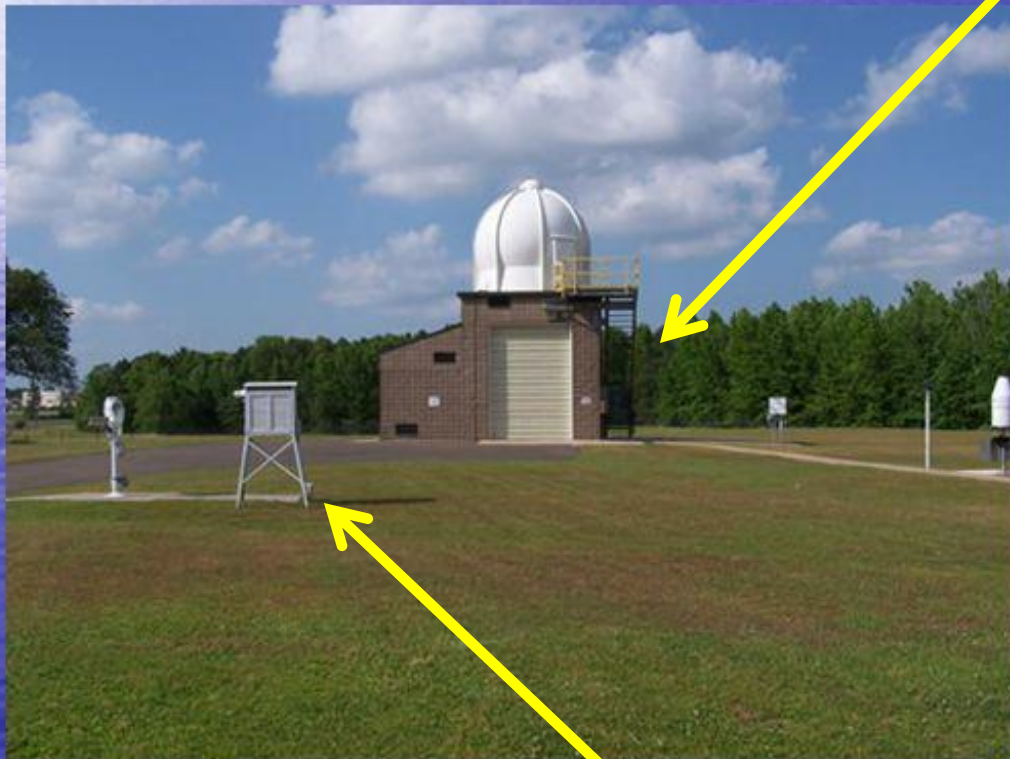
For the next couple of days the dry air will dominate so we will be sunny and warm today and Thursday. Temperatures today and tomorrow will run 8 to 10 degrees above average.

For Friday and Saturday the [upper level trough](#) just to our west is finally able to draw some [moisture](#) up out of Mexico and bring into locations east of the Rio Grande. As short waves rotate through the [trough](#) and as some decent directional wind [shear](#) sets up over the area we could see some strong to severe thunderstorms, mainly east of the Rio Grande late on Friday and again on Saturday.

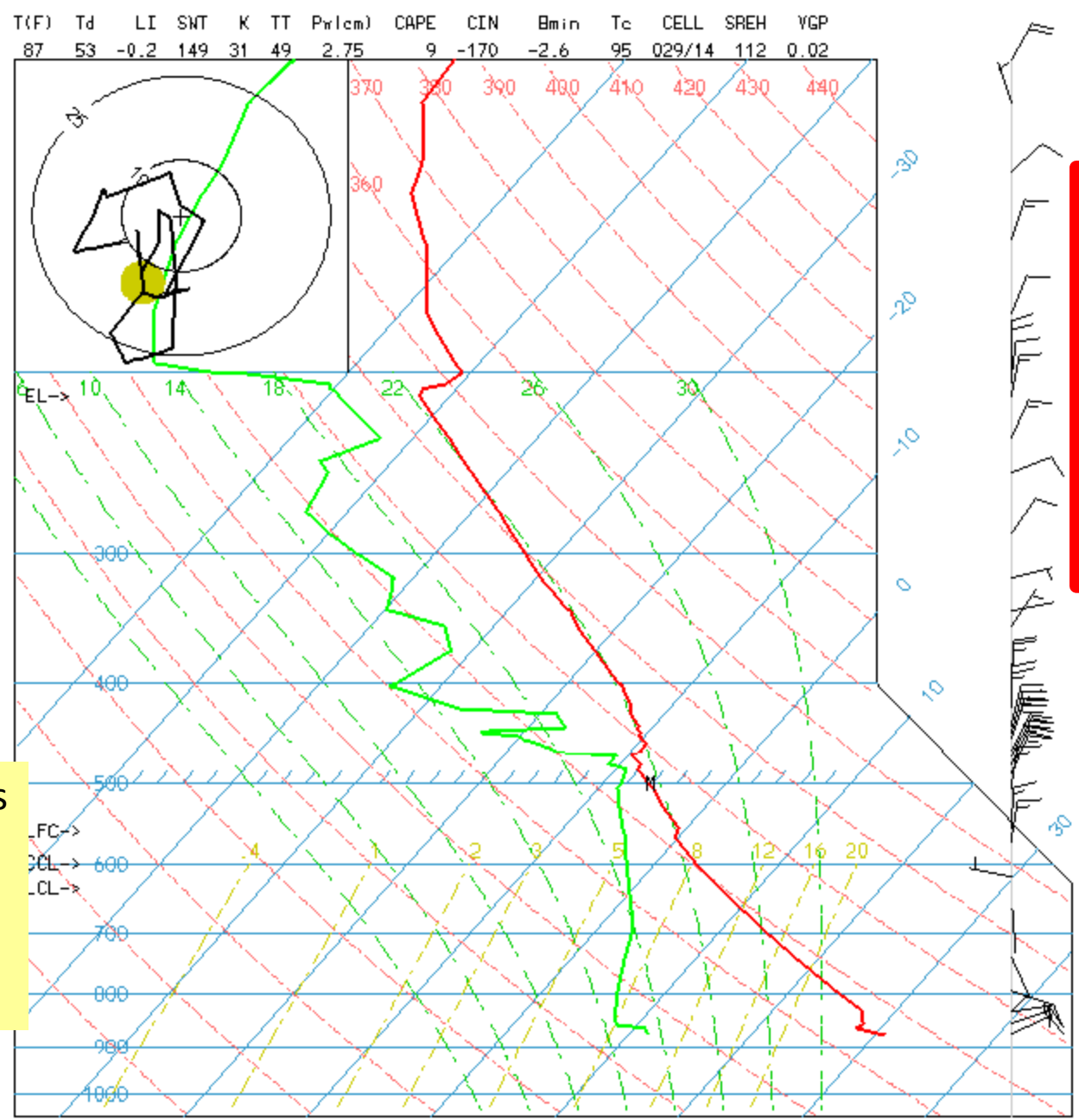
By Sunday drier air moves into the region so that will limit our rain chances to extreme eastern Oklahoma and Oklahoma City.

Upper Air - Radiosondes

Radiosondes are released from the inflation building and move up through the atmosphere (20 miles) sending back weather information along the way.



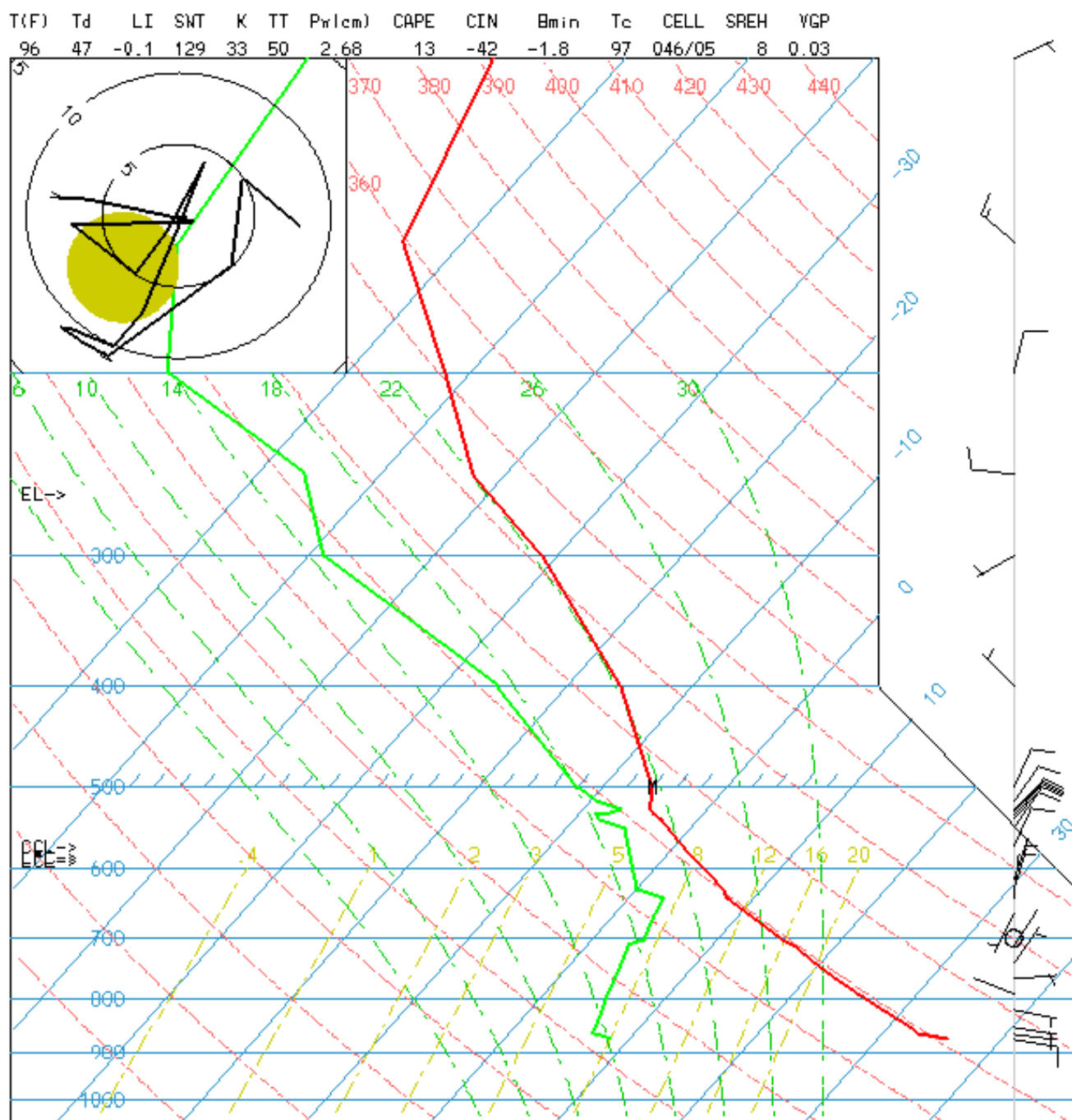
Surface Thermometers are in the Stevenson Screen



The RED line is the temperature from the weather balloon sounding

The GREEN LINE is the Dew Point temperature from the same sounding.

500 millibars
~18,000 ft
594 contour
is 5940 m
high.



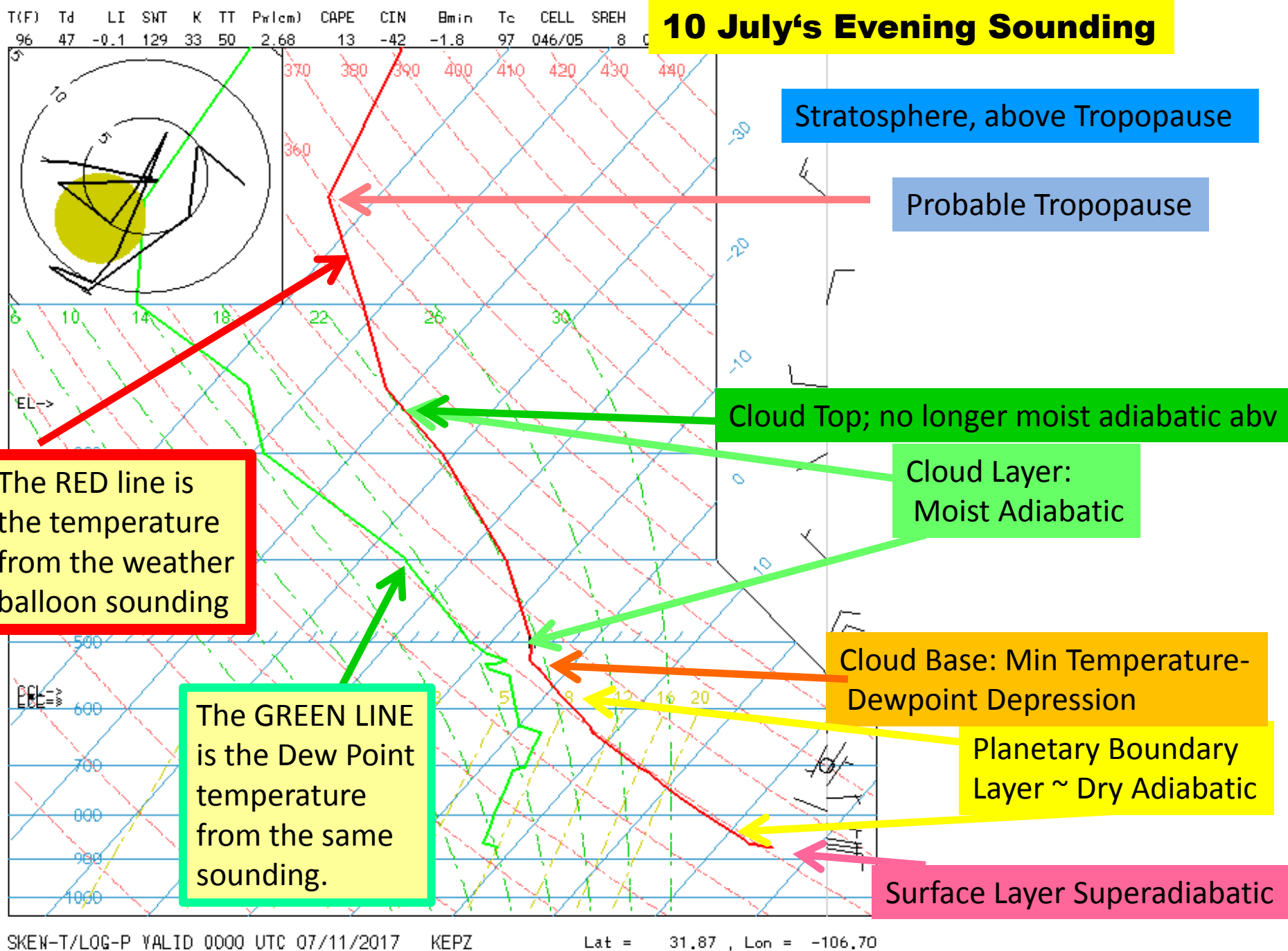
Lat = 31.87 , Lon = -106.70

“Textbook Examples”

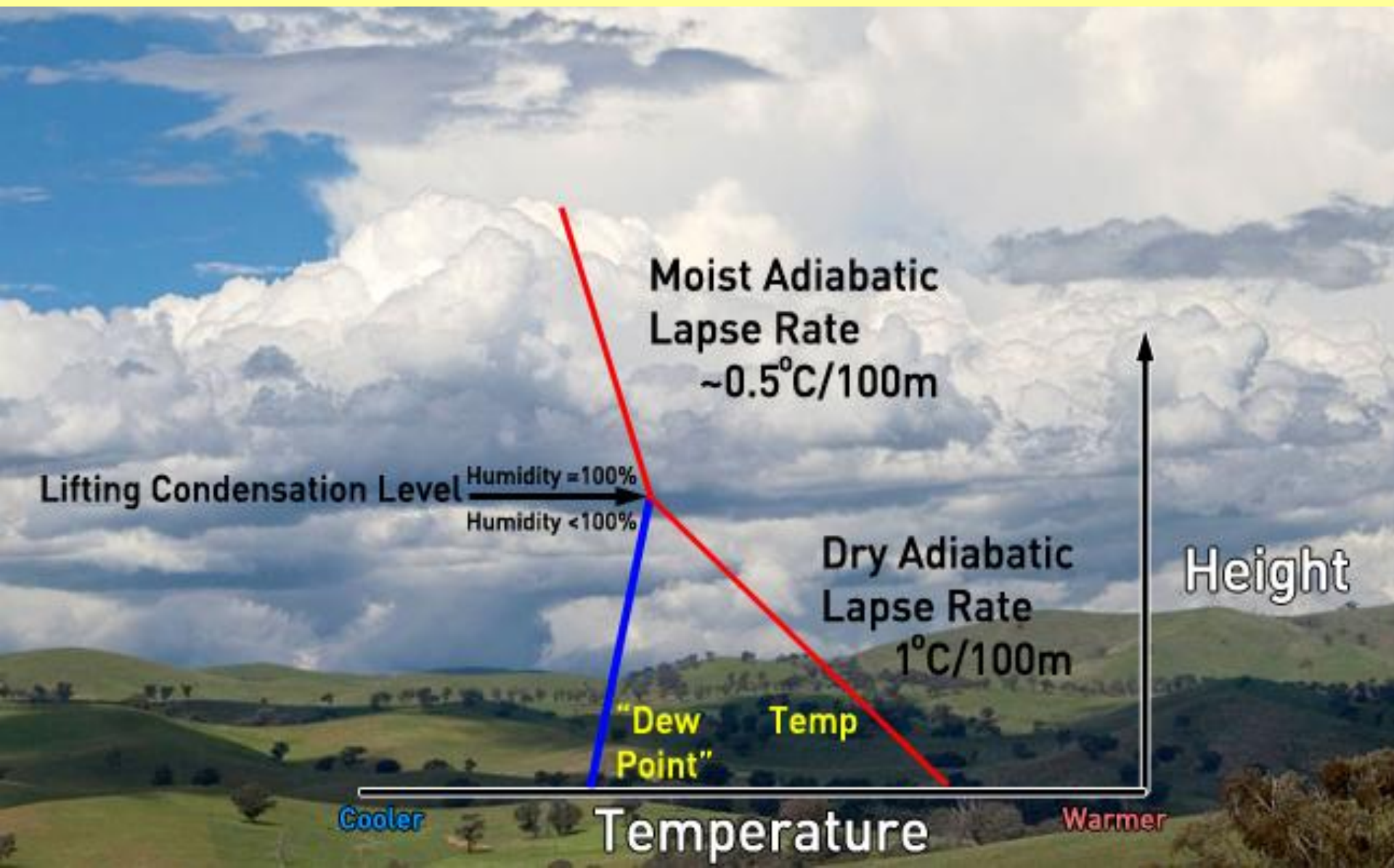
Moist Adiabatic Layer

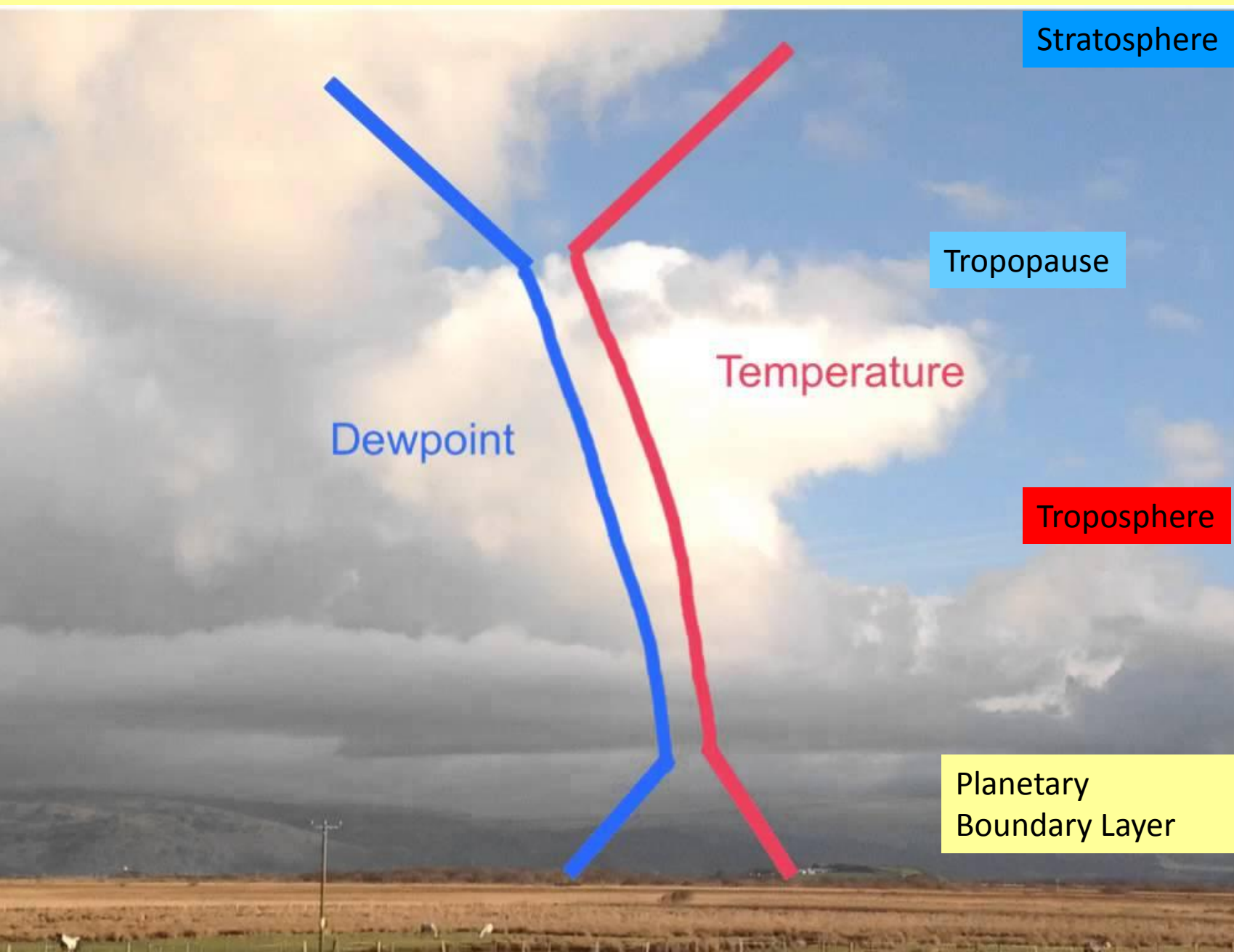
Dry Adiabatic Layer

10 July's Evening Sounding



<https://www.theweathernetwork.com/news/articles/ten-weather-terms-that-will-make-you-look-smart-at-parties/50620>





Hurricanes: Science and Society

Home

Science

Hurricanes & Society

History

Resources

Galleries

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Hurricane Science
About
Hurricane Structure

Primary Circulation

Hurricane Movement

Hurricane Life Cycle

Hurricane Genesis: Birth
of a Hurricane

Hurricane Development:
From Birth to Maturity

Hurricane Decay: Demise
of a Hurricane

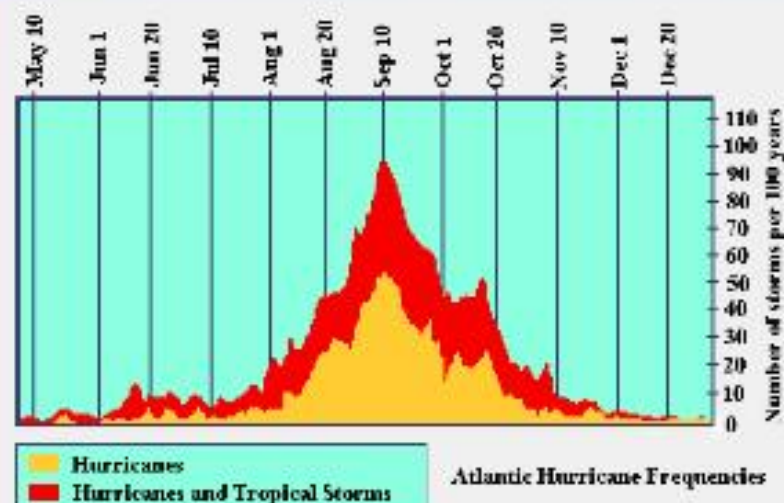
Interaction between a
Hurricane and the Ocean

Interaction between a
Hurricane and the Land

Home > Science > Hurricane Science > Variability of Hurricane Activity

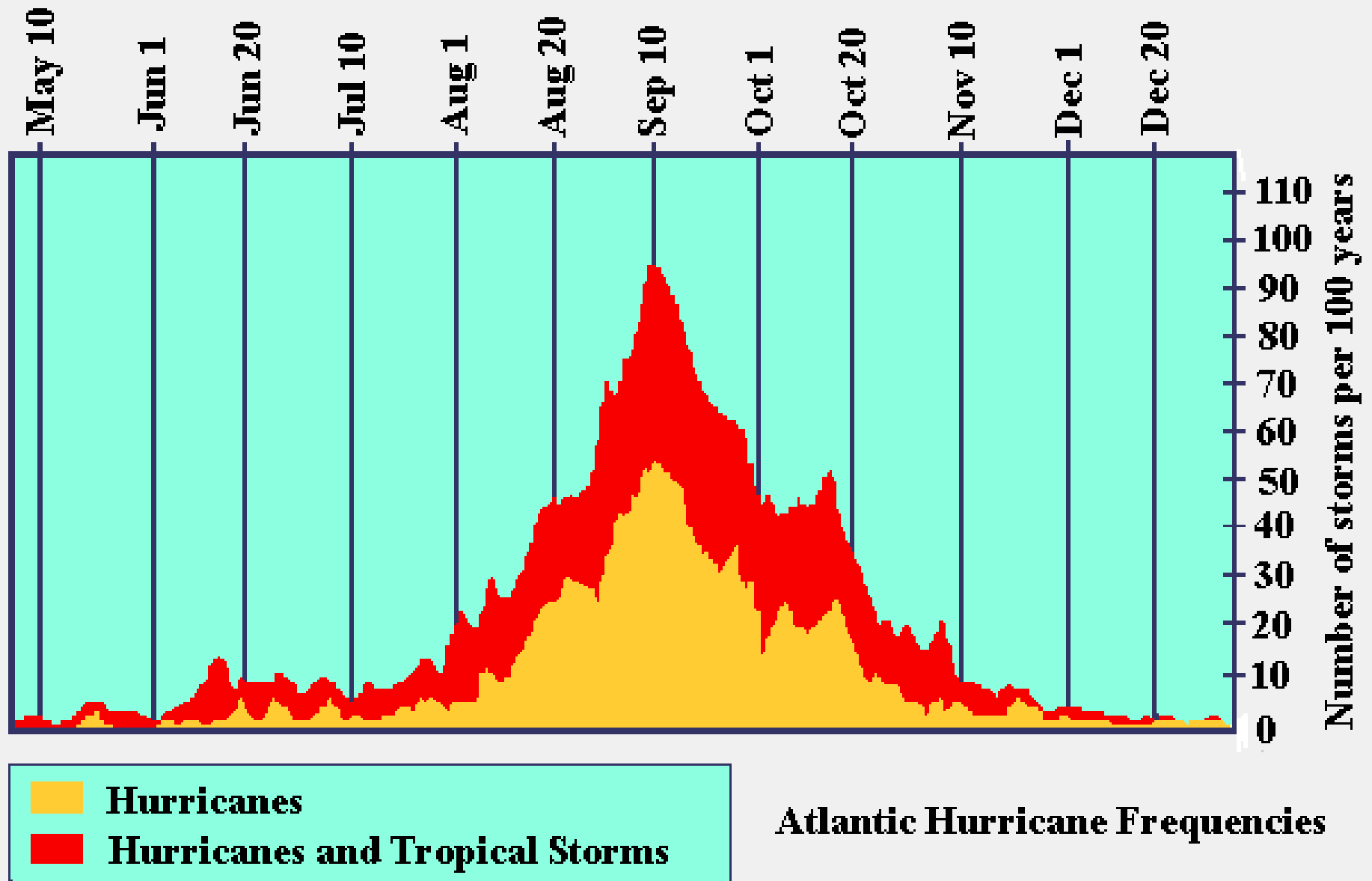
Variability of Hurricane Activity

Hurricane activity varies over different time cycles, and the reasons for this variability are not all well-understood. One cycle that is well-defined in the Atlantic Region, however, is the annual Atlantic hurricane season, which runs from June 1st to November 30th each year. These dates were selected by the U.S. National Hurricane Center (NHC) to include approximately 97% of the tropical cyclone activity in the Atlantic Basin. The graph below shows the average distribution of hurricane and tropical storm activity throughout the year. From this graph, it is clear that the majority of tropical cyclones in the Atlantic Basin occur between August and October with a peak in September. One study



Graph of hurricane frequency for the Atlantic Ocean hurricane season. A peak in activity from August through October is clearly visible. Image credit: NOAA.

One study




X-Axis = Day of year Y-Axis= average number of storms in Atlantic Basin

Remnants of Hurricane Dolly over Las Cruces

On 26 July 2008 as the remnants of Hurricane Dolly approached from the southeast, the Las Cruces weather was overcast with plentiful rain.

Near noontime, the rain stopped and the sun suddenly came out!

I went outside and indeed the remnants of the eye of Dolly were over Las Cruces.

Address  <http://www.rap.ucar.edu/weather/satellite/displaySat.php?region=ABQ&itype=vis>

Google  Satellite Image New Mexico



Go



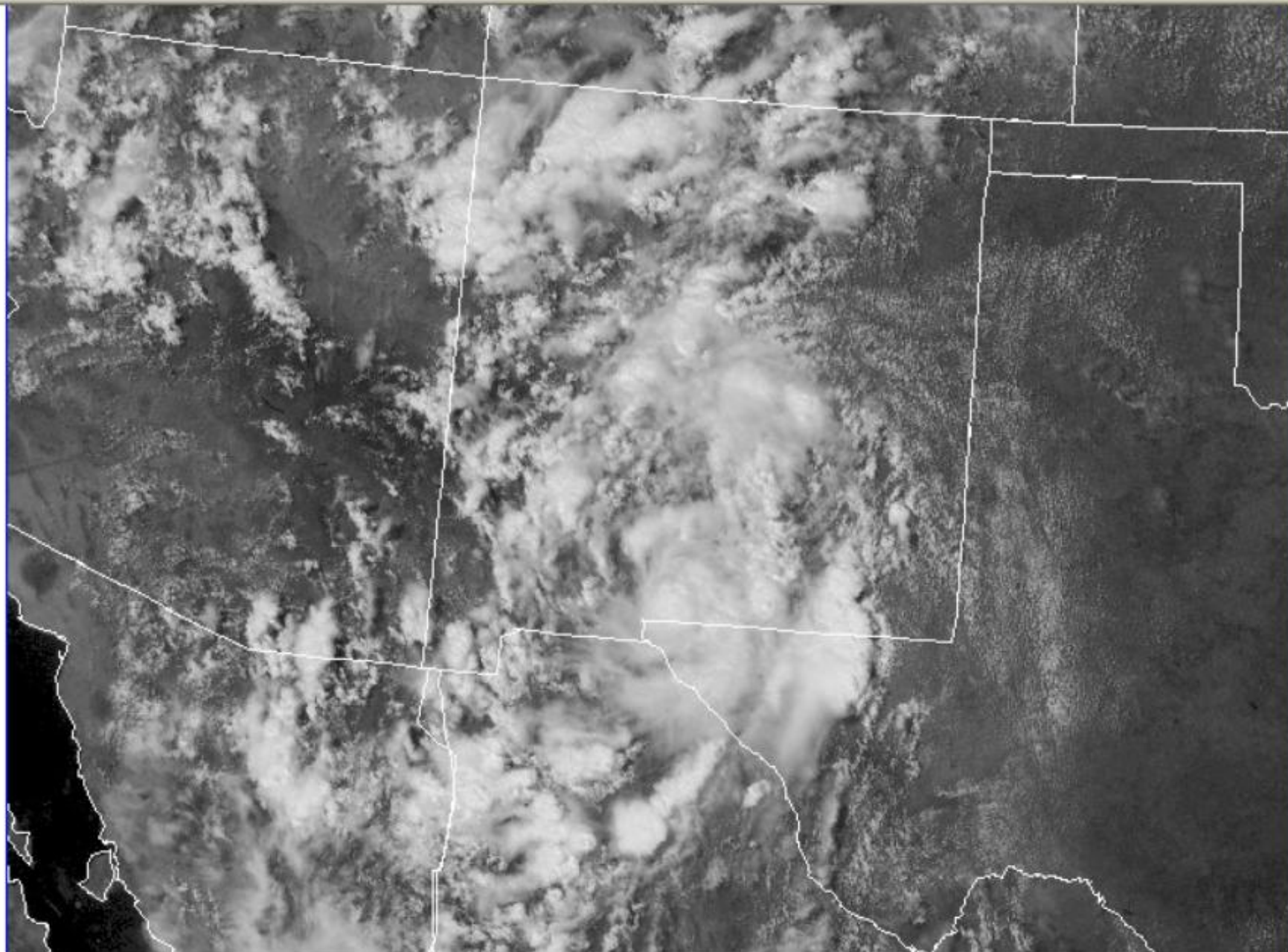
Bookmarks



76 blocked



Settings



Adjacent Radars:



Short Range Images

Reflectivity:
 Composite Loop
 Base Loop

Velocity:
 Storm Relative Loop
 Base Loop

Rainfall:
 1-Hour Total Loop
 Storm Total Loop

Long Range Images

Reflectivity:
 Base Loop

U.S. Views

Reflectivity:
 National Loop
 Alaska Loop
 Hawaii Loop
 Guam Loop
 Puerto Rico Loop
 Radars by State

Additional Info:

Radar FAQ
 Downloading Images
 Mobile Users

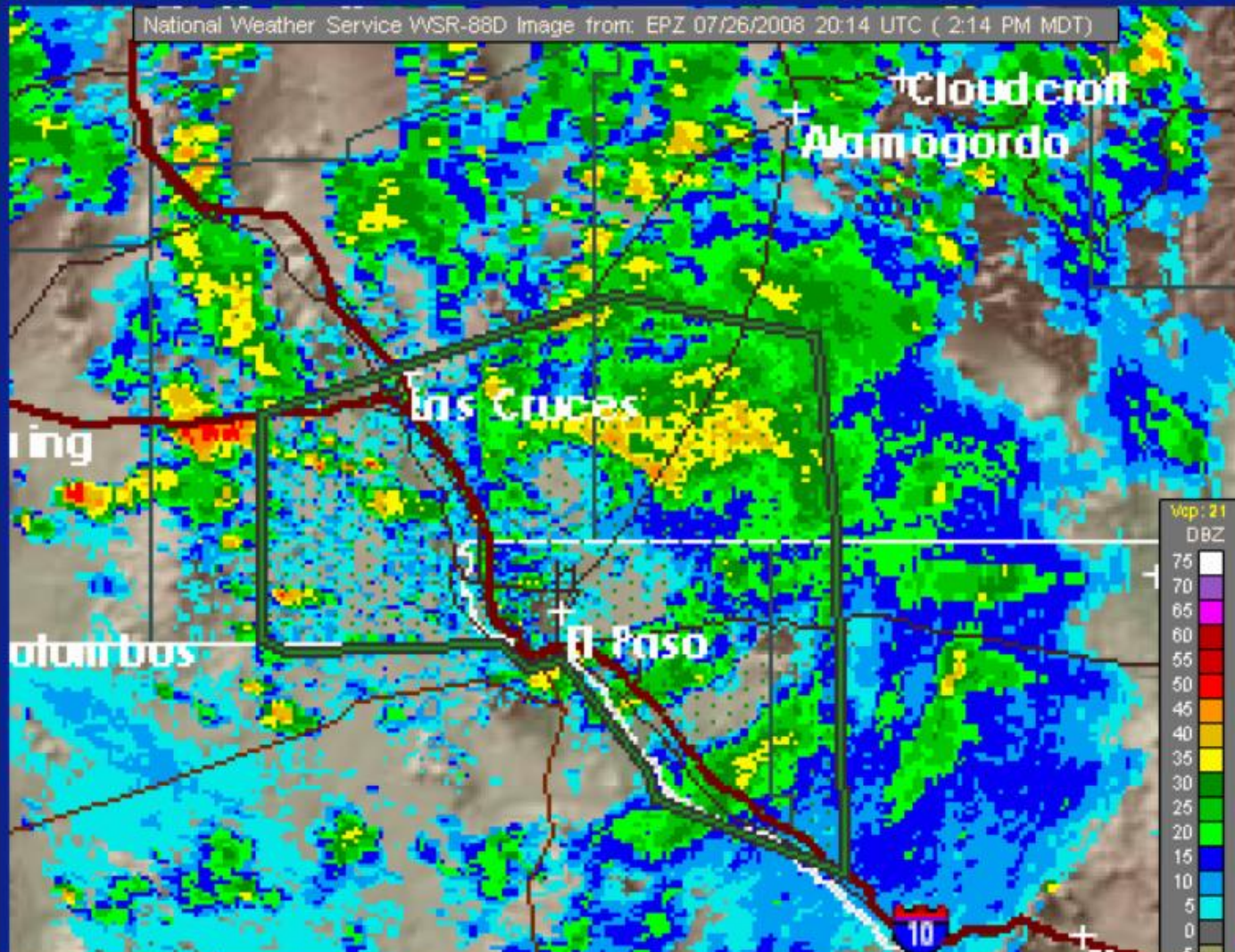
Composite Reflectivity

NWS El Paso, TX

11:08 AM MDT Sat Jul 26 2008

02:09 PM MDT Sat Jul 26 2008

National Weather Service WSR-88D Image from: EPZ 07/26/2008 20:14 UTC (2:14 PM MDT)



National Weather Service • Since 187

“Animated GIF” from Don Veazey



WUWT

Watts Up With That?

The world's most viewed site on global warming and climate change

[Home](#) [About](#) [Climate FAIL Files](#) [Climategate](#) [Reference Pages](#) [Submit story](#) [Test](#) [Tips and Notes](#)

Michael Mann's claims that Harvey was caused by global warming are destroyed by an operational meteorologist

Advertisements

Anthony Watts / August 31, 2017

Bastardi: No Michael Mann — Climate change did not cause Hurricane Harvey

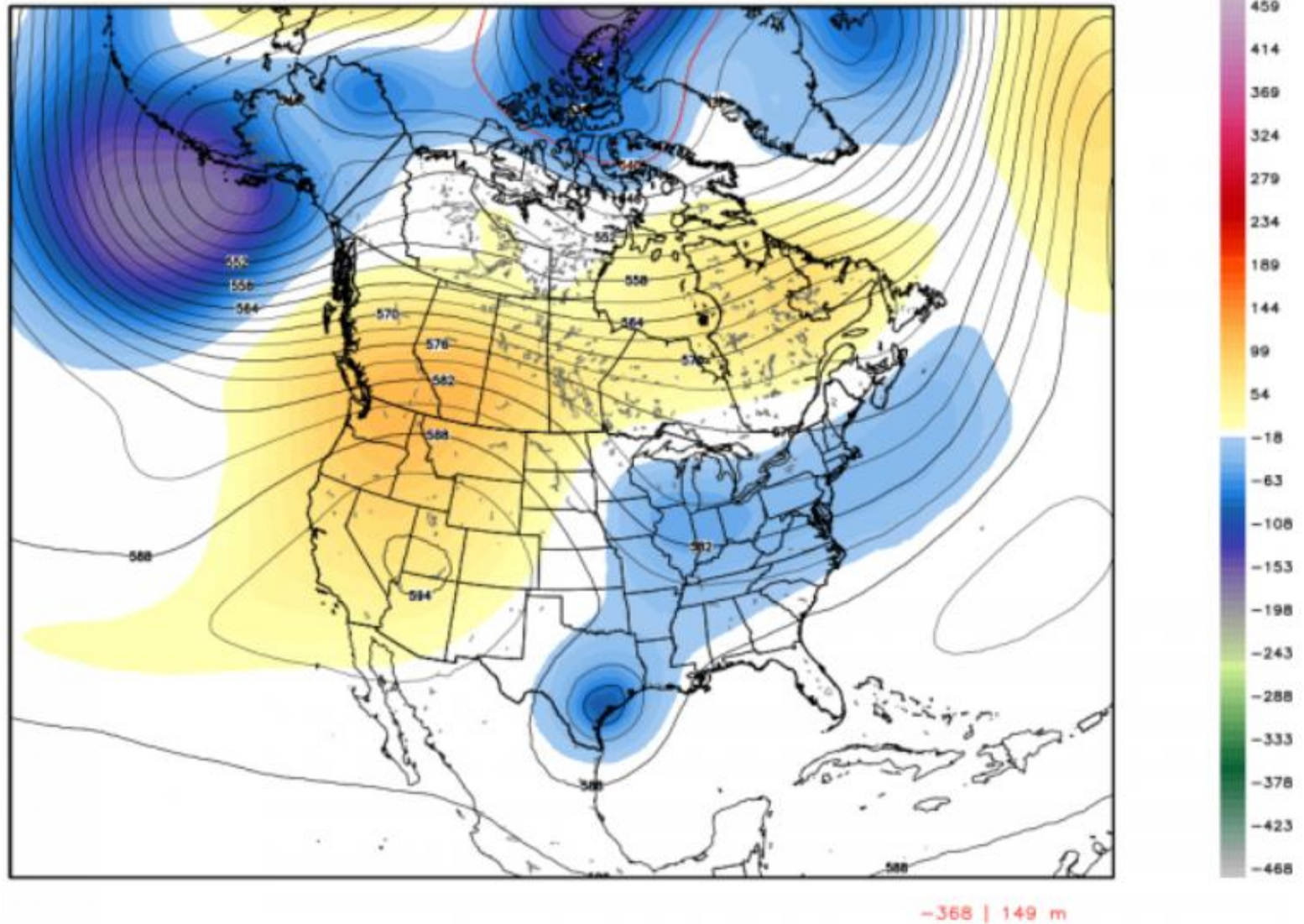
Meteorologist Joe Bastardi takes down [fake Nobel](#) [Michael Mann](#)'s lame effort in the Guardian to link climate with Hurricane Harvey.

It's a fact: climate change made Hurricane Harvey more deadly

Michael E Mann

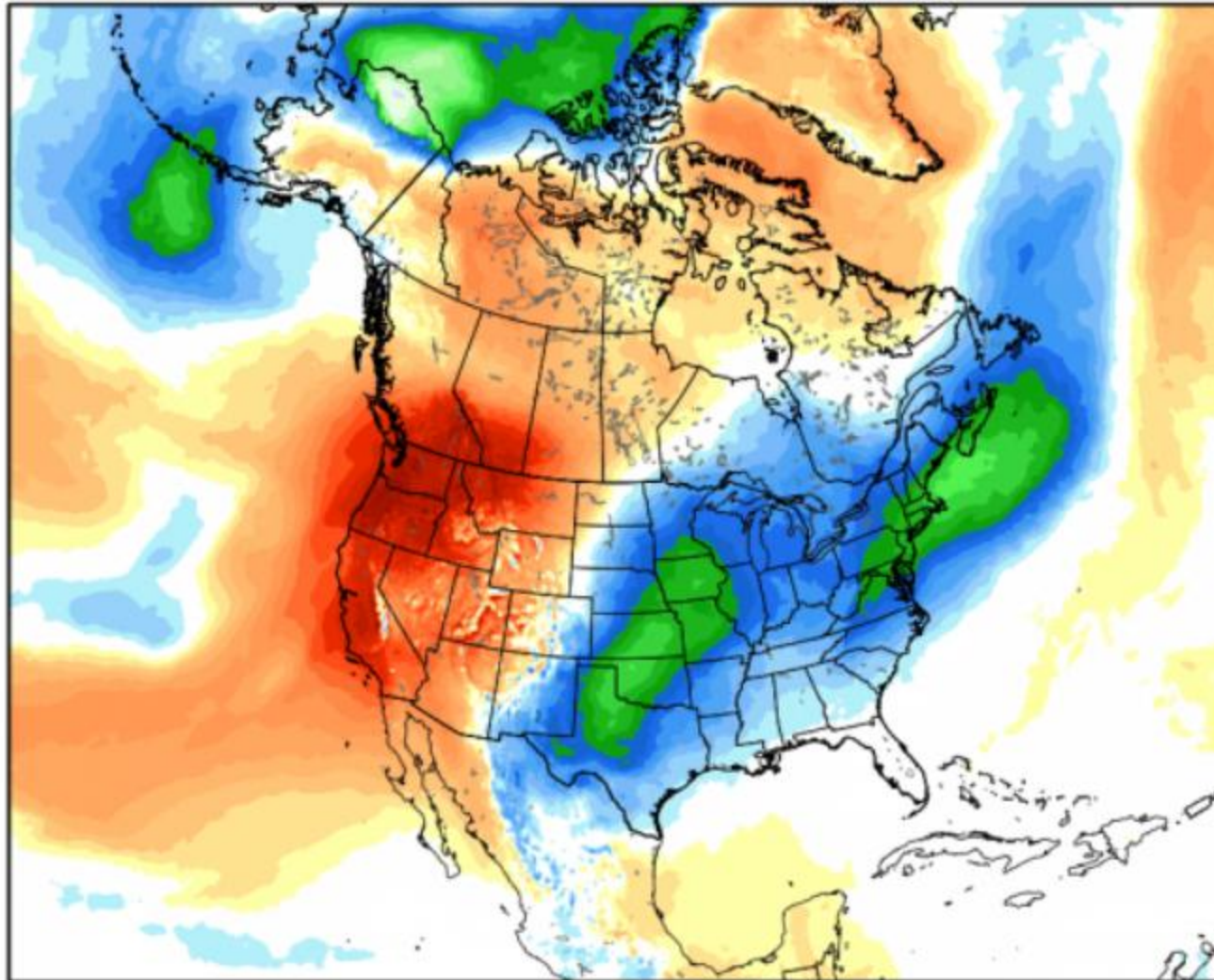
The notion that “Global Warming” caused Harvey to intensify is belied by the data:
European (ECMWF) 500 millibar chart average of 26-31 August 2017 blue = cold

ECMWF 500 hPa Geopotential Height [dm] & Anomaly [m] fx: [120] hr --> Thu 12Z31AUG2017
INIT: 12Z26AUG2017 5-day Mean between 12Z26AUG2017 & 12Z31AUG2017 Day 0 - Day 5



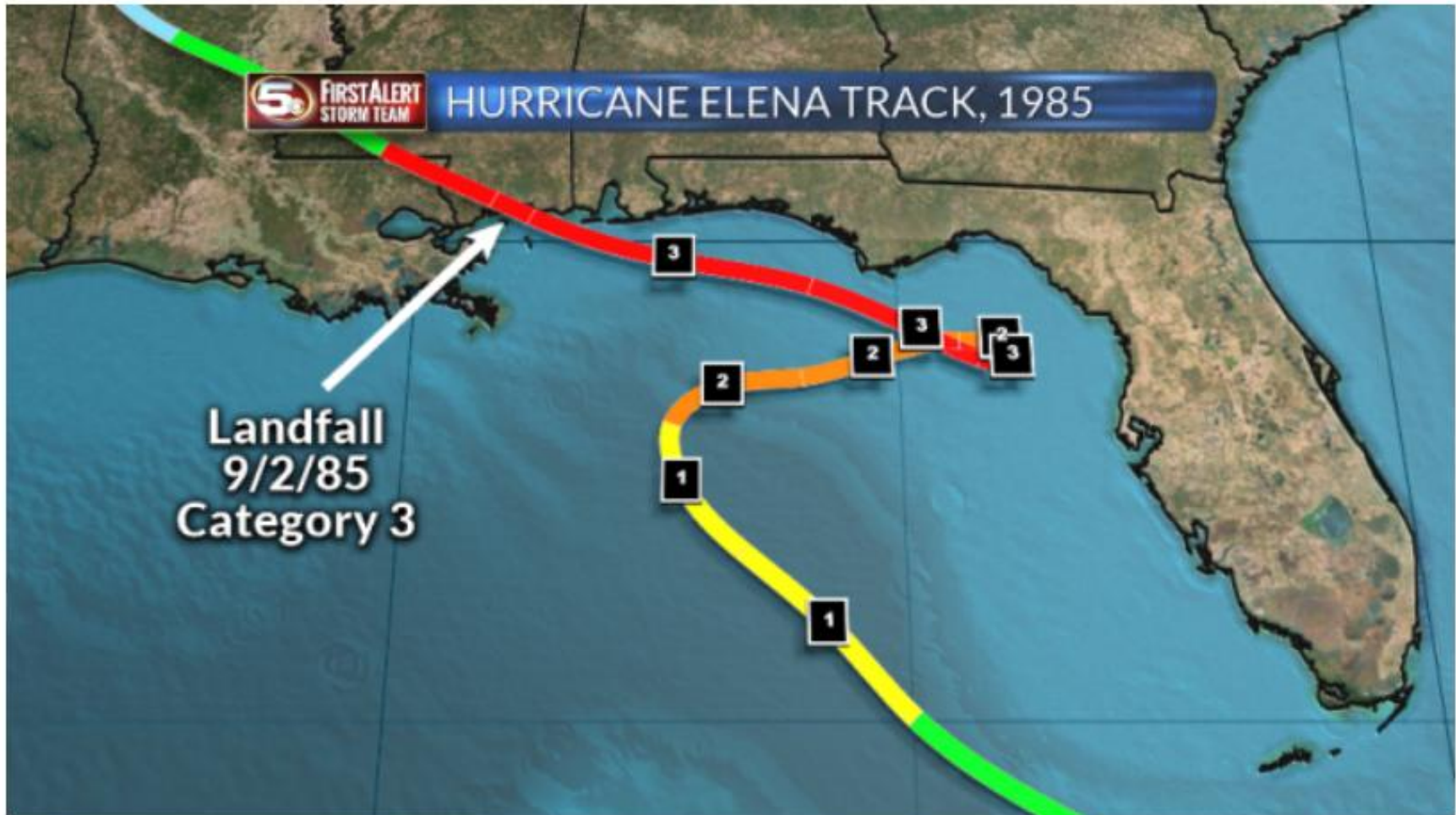
Notion that “Global Warming” caused Harvey to intensify is belied by the data:
European (ECMWF) 850 millibar Temp. chart average of 26-31 Aug 2017: blue = cold
850 mb ~ 5000 ft MSL

ECMWF 850 hPa Temperature Anomaly [°C] fx: [120] hr --> Thu 12Z31AUG2017 -8.2° | 7.9°C
INIT: 12Z26AUG2017 5-day Mean between 12Z26AUG2017 & 12Z31AUG2017 Day 0 - Day 5



Notion that “Global Warming” caused Harvey to stall over Texas is belied by the data: It’s happened before; this is Joe Bastardi describing Michael Mann’s errors.

So what apparently he is describing is a ridge position enhanced that means the storms moves slow. DO YOU UNDERSTAND THAT THIS IS THE OPPOSITE? THIS IS A MAJOR TROUGH TOO FAR SOUTH. The same thing that caught Elena in 1985 except it was over the gulf.



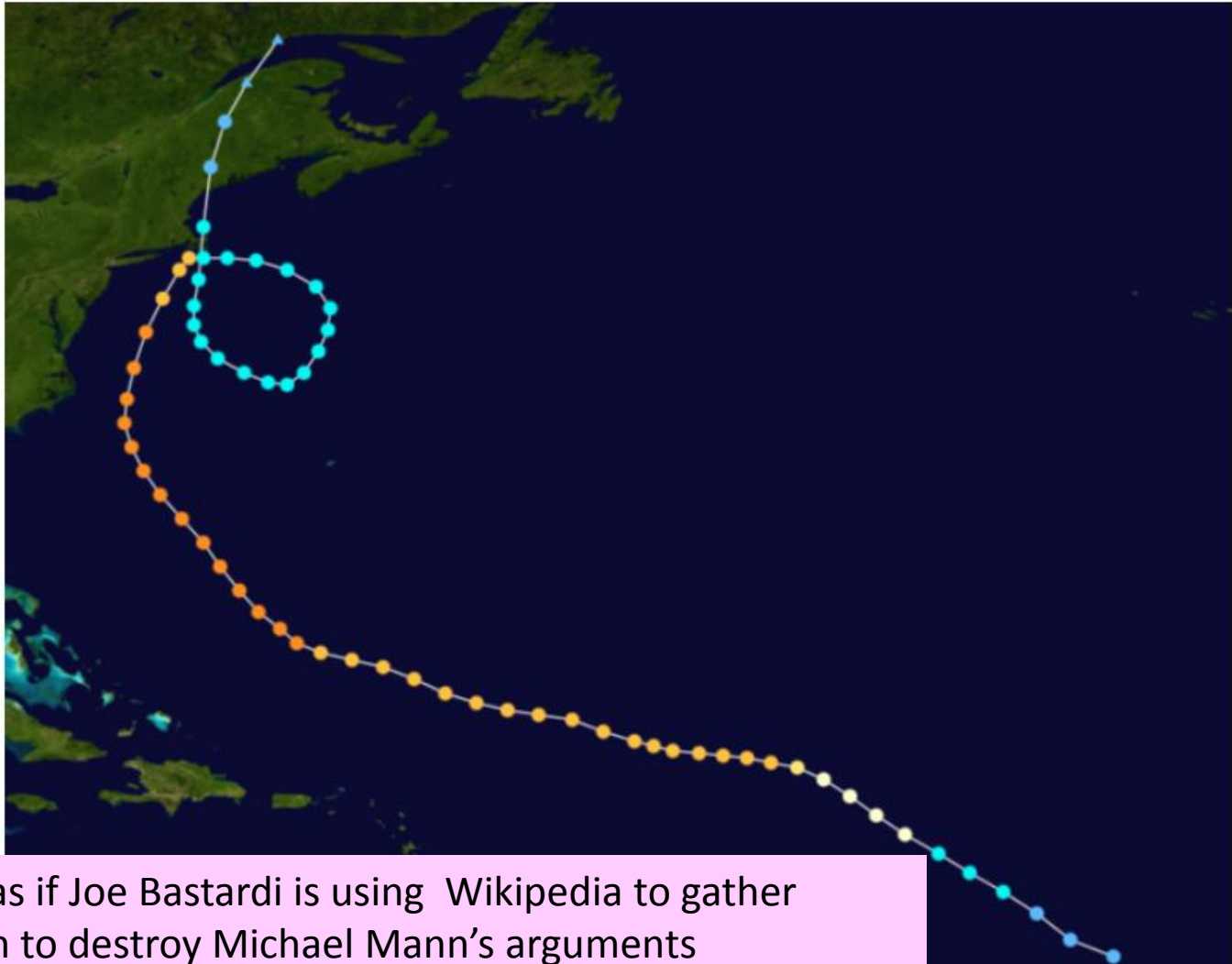
The notion that “Global Warming” caused Harvey to stall over Texas is belied by the data:
It has happened before:

It Caught Dennis in 1999.



Notion that “Global Warming” caused Harvey to stall over Texas is belied by the data:
It has happened before:

But Dennis was over the water before he came back. You want really crazy? Look at Esther in 1961.



It appears as if Joe Bastardi is using Wikipedia to gather information to destroy Michael Mann's arguments
Quick Sidebar on Wikipedia and “Wikipedia's Climate Doctor”

<http://www.nationalpost.com/opinion/columnists/story.html?id=62e1c98e-01ed-4c55-bf3d-5078af9cb409>

By Lawrence Solomon

NATIONAL POST

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CANADA • WORLD • TORONTO • GRAPHICS • HOCKEY • FOOD & DRINK • STYLE • BOOKS • HORC

OPINION

Wikipedia's climate doctor

How Wikipedia's green doctor, William Connolley, rewrote 5,428 climate articles

Climategate Emails describe how a small band of climatologists cooked the books to make the last century seem dangerously warm.

The emails also describe how the band plotted to rewrite history as well as science, particularly by eliminating the Medieval Warm Period, a 400 year period that began around 1000 AD.

The Climategate Emails reveal something else, too: the enlistment of the most widely read source of information in the world — Wikipedia — in the wholesale rewriting of this history.

These can be accessed by going to the class web page, under Climate Shorts
<http://casf.diskstation.me/wordpress/climate-shorts/>

Wikipedia's Climate Doctor

by Lawrence Solomon

Originally published 19 Dec 2009, National Post ·

The Climategate Emails describe how a small band of climatologists cooked the books to make the last century seem dangerously warm.

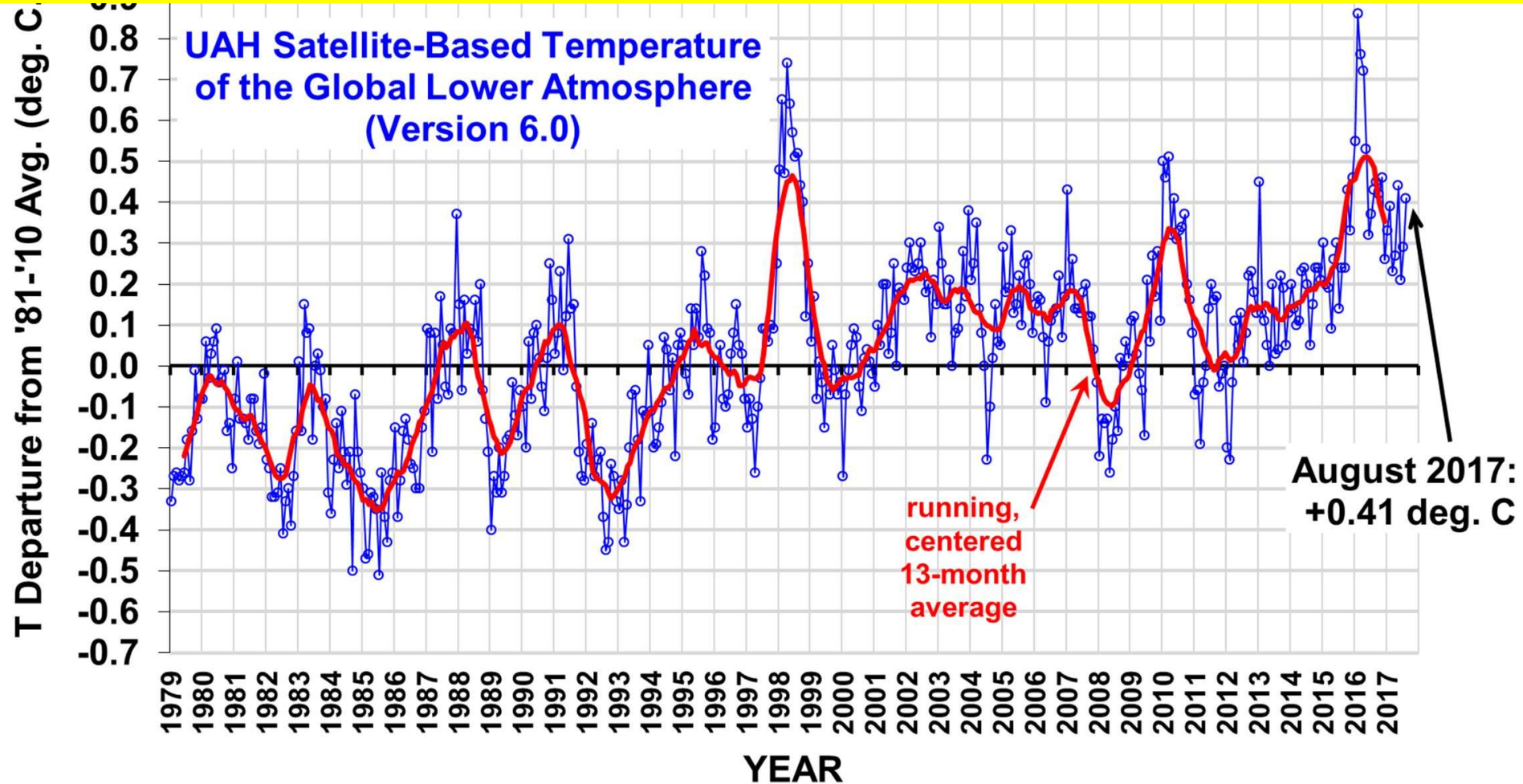
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The Medieval Warm Period, which followed the meanness and cold of the Dark Ages, was a great time in human history -- it allowed humans around the world to bask in a glorious warmth that vastly improved agriculture, increased life spans and otherwise bettered the human condition.

Another point about Harvey and Greenhouse Warming

[http://www.drroyspencer.com/wp-content/uploads/UAH LT 1979 thru August 2017 v6.jpg](http://www.drroyspencer.com/wp-content/uploads/UAH_LT_1979_thru_August_2017_v6.jpg)



X-Axis: Time since 1979 Y-Axis Temperature departure, blue, plotted every month

If greenhouse warming effect is so strong, why didn't Hurricanes of Harvey's, Irma's, Maria's strengths form in 2016?

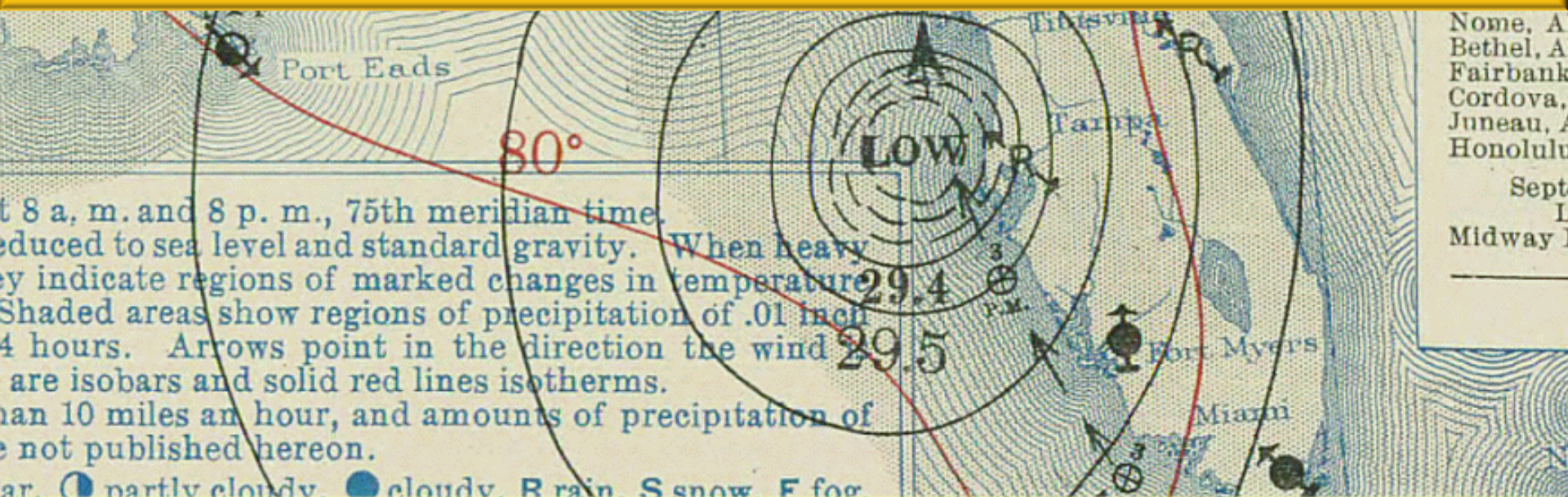
On the notion expressed in class, that,

“Hurricanes recently are stronger than ever, and getting more numerous over time.”

We’ve heard this before....Let’s look at some data:

Climate Short

In the days after Superstorm Sandy
this claim: <tropical> “Storms Today are Different”



Bob Endlich

bendlich@msn.com

12 Sep 2017

Weather, Climate and Climate Change—What the Data Say

“Storms Today Are Different”

"Because of sea level rise, the storm surge was much more intense, much higher than it would have been in a non-climate-changed world."

Jane Lubchenco, NOAA Chief

13 December 2012

From a news story on Hurricane, then post-tropical storm, Sandy, in late 2012:

Storms today are different," says Jane Lubchenco, who heads the National Oceanic and Atmospheric Administration, which includes the National Weather Service.

"Because of sea level rise, the storm surge was much more intense, much higher than it would have been in a non-climate changed world."

...NPR, *Morning Edition*, Thursday, 13 Dec 2012

Let's examine this claim in light of some pertinent data.



Storm Surge Map for Sandy

**NOAA: Surge = ~14 Ft
near NYC**

<CO₂ ~ 394 PPM>

Lat: 42.8760 Lon: -61.3916

Legend

Height above NGVD-29 (feet)

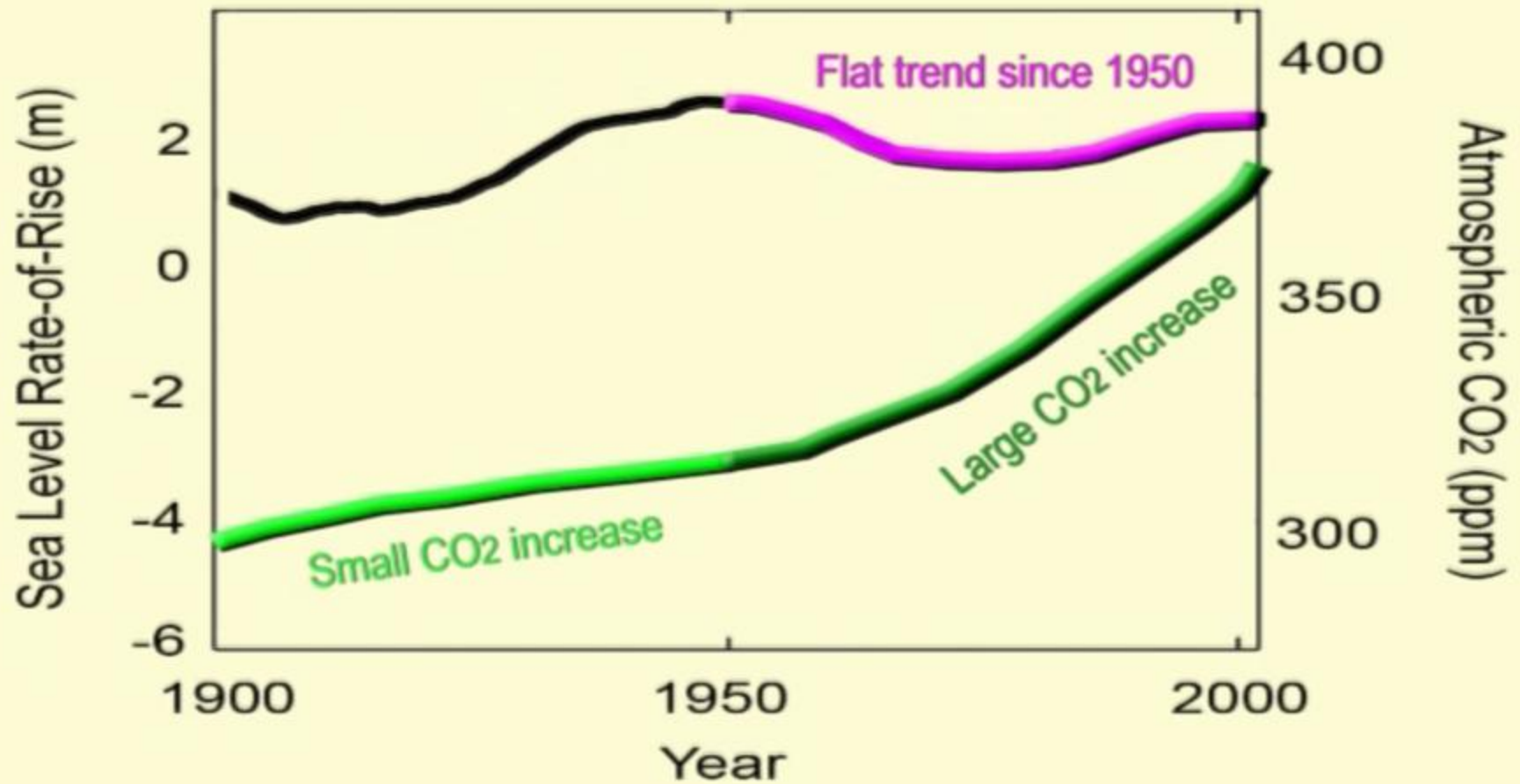
0 to < 2	11 to < 13	23 to < 25
2 to < 3	13 to < 15	25 to < 27
3 to < 5	15 to < 17	27 to < 29
5 to < 7	17 to < 19	29 to < 36
7 to < 9	19 to < 21	
9 to < 11	21 to < 23	

Disclaimer



Historical Data:
NHC this storm
NHC all storms
MDL

Observed Data: No 20th Century Acceleration of Sea Level Rise, despite the large increase in atmospheric <CO₂>



Church, J.A., White, N.J., Coleman, R., Lambert, K. and Mitrovica, J.X. 2004, Estimates of the regional distribution of sea level rise over the 1950-2000 period. *Journal of Climate* 17: 2609-2625.

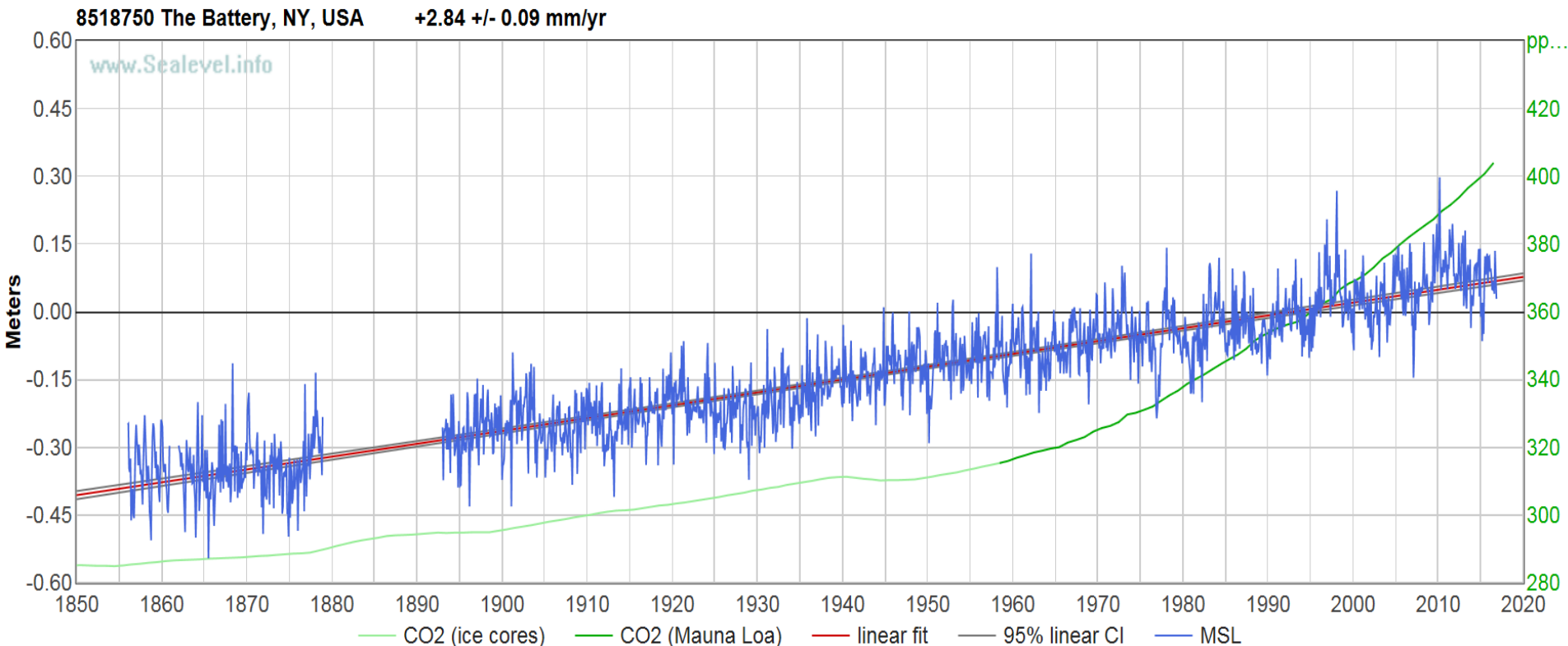
Sea Level Rate of Rise from one of the longest tide gage station records in the USA, The Battery, New York City, close to where Sandy came ashore.

http://www.sealevel.info/MSL_graph.php?id=Battery

The mean rate of Sea Level Rise is 0.93 ft in 100 years.

[Sealevel.info](http://www.sealevel.info) → [Data](#) → 8518750

Mean Sea Level at The Battery, NY, USA (NOAA [8518750](#), 960-121, PSMSL [12](#))



X-Axis: Time, years.

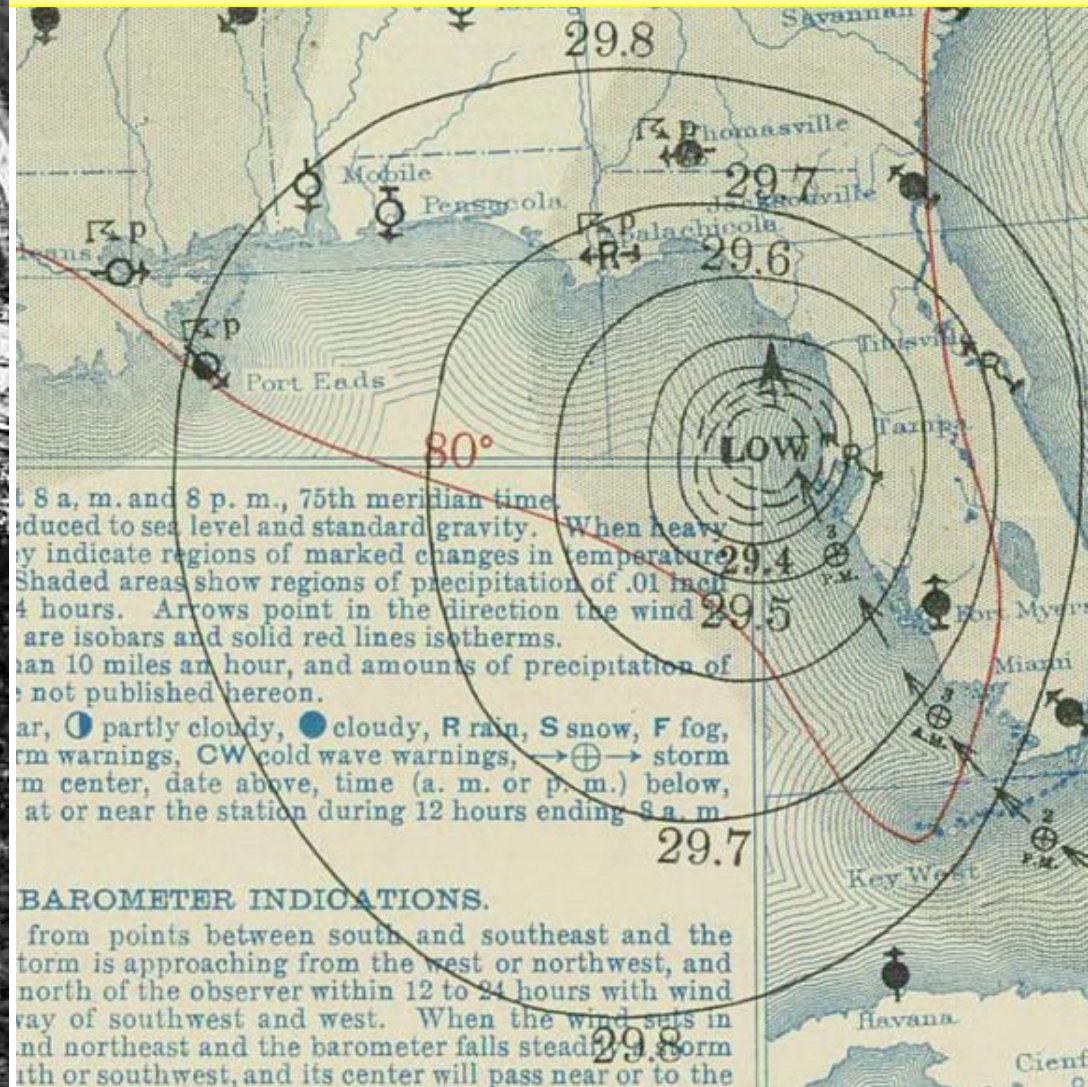
Y-Axis (Left) Sea Level Ht, meters. Y-Axis (Right) Atmospheric <CO2>

1935 Labor Day Hurricane Storm Surge over 18 ft

...the compact and intense hurricane caused extreme damage in the upper Florida Keys, as a storm surge of approximately 18 to 20 feet swept over the low-lying islands...

<CO2~306 PPM>

http://en.wikipedia.org/wiki/1935_Labor_Day_hurricane



1938: “Long Island Express” Hurricane’s Storm Surge was 18 to 25 Ft <CO2PPM> http://en.wikipedia.org/wiki/1938_New_England_hurricane

The **1938 New England Hurricane** (also called the **Great New England Hurricane** and **Long Island Express**)... one of the deadliest and most destructive [tropical cyclones](#) to strike [Long Island, New York](#) and [New England](#).

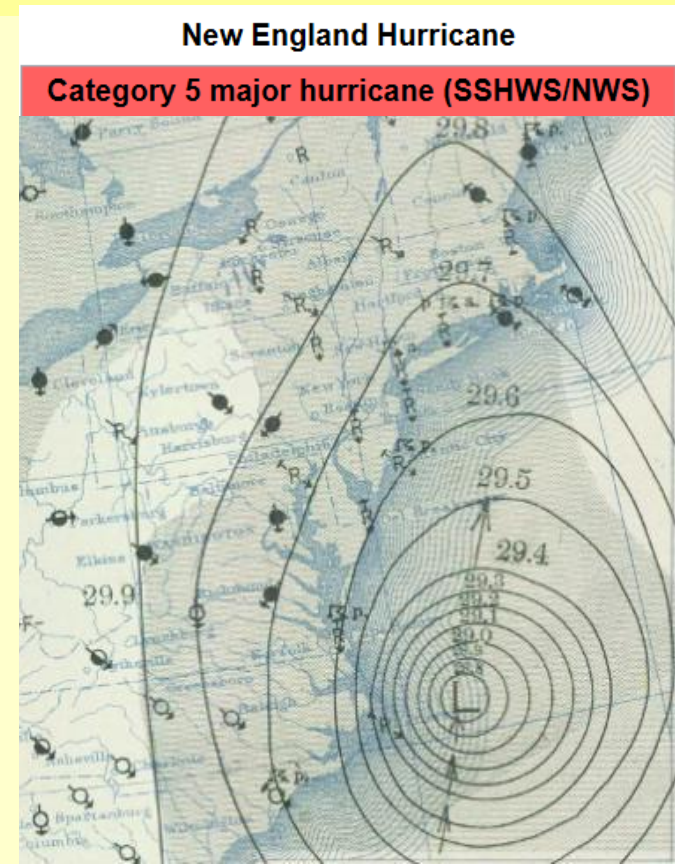
...the hurricane killed 682 people,^[2] damaged or destroyed more than 57,000 homes, and caused property losses estimated at US\$306 million (\$4.7 billion in 2017).^[3]

Damaged trees and buildings were still seen in the affected areas as late as 1951.^[4]

... most powerful and deadliest hurricane in recorded New England history, eclipsed in landfall intensity perhaps only by the [Great Colonial Hurricane of 1635](#).^[5]

The storm surge hit [Westerly, Rhode Island](#) at 3:50 pm EDT, resulting in 100 deaths there alone.^[22]

...tide was even higher than usual because of the [Autumnal Equinox](#) and [full moon](#). ...storm tides of 14 to 18 feet (5 m) across most the Long Island and Connecticut coast, **with 18- to 25-foot (8 m) tides** from [New London](#) east to [Cape Cod](#).





MANY DEAD IN HURRICANE

Bodies Cast On L. I. Shore; Subways Stop; Hotels Dark

EXTRA

Scores of bodies have been washed ashore from the ocean between Center Moriches and Sag Harbor, L. I., following today's storm, Nassau County Police Headquarters here tonight announced they had been advised by police in different Suffolk County communities.

The persons reported to have been drowned are said to have been occupants of cottages along a fifty-mile stretch of shoreland between the Montauk Highway and the Atlantic Ocean and stretching from Center Moriches to Westhampton.

Six bodies, victims of yesterday's devastating hurricane, were washed ashore last night at Westhampton, L. I., bringing the total death toll in all the affected area to 25.

In Westhampton, thirty persons were missing in the ruins of 160 Summer bungalows, which had been swept away by the gale. The bodies recovered were those of four men and two women.

After the Independent Subway System and the Manhattan-Hudson tubes had been tied up by light and power failure and by flooded tracks, hundreds of upper Broadway hotels, stores and apartment houses were plunged in darkness by the flooding of Edison plants, supplying the area with alternating current.

(Earlier details on Page 2. Complete account of hurricane havoc in later editions of today's News.)

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(By Associated Press)

The hurricane came! Here a Nassau County cop employs rubber boat to rescue children from rain-flooded home at Williston Park, Nassau.

2 Full Pages of Hurricane Fotos in Center Fold.



We've examined Jane Lubchenco's claim that, because of climate-changed sea level rise, the surge for superstorm (post-tropical storm) Sandy was greater than for previous storms.

We found increasing atmospheric <CO2> has NOT increased the rate at which sea level rises.

NOAA's data showed a 14 ft storm surge for Sandy at New York.

We found the storm surge for the 1935 Labor Day Hurricane in Florida was 18 to 20 ft.

We found the storm surge for the 1838 "Long Island Express" hurricane was 18 to 25 ft in coastal Massachusetts.

We found that Jane Lubchenco's claims are Incorrect or False.

“Storms Today Are Different”

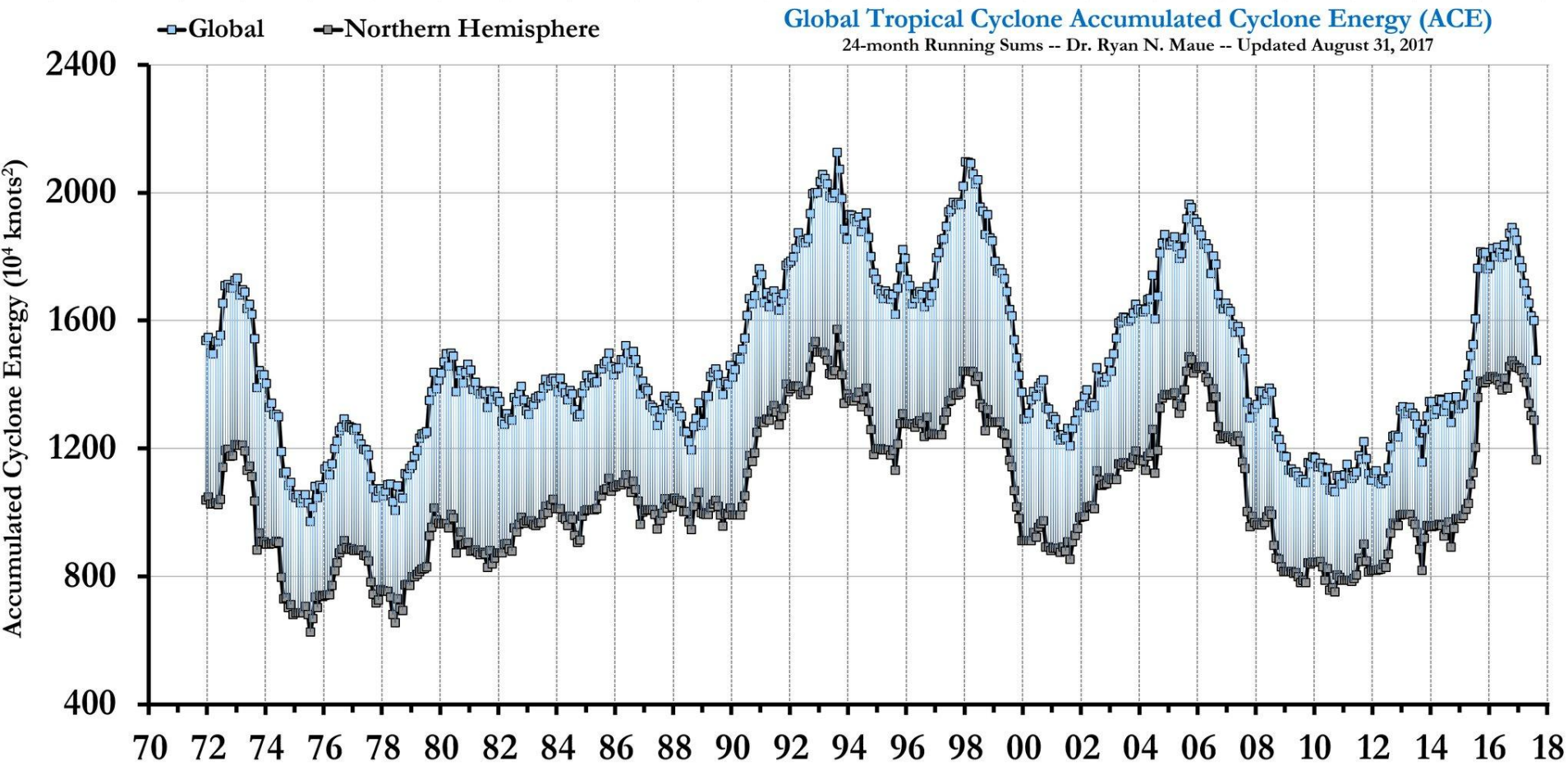
"Because of sea level rise, the storm surge was much more intense, much higher than it would have been in a non-climate changed world."

Jane Lubchenco, former NOAA Chief

**Was she speaking out of ignorance of the facts,
or for political reasons?**

On the notion expressed in class, that,

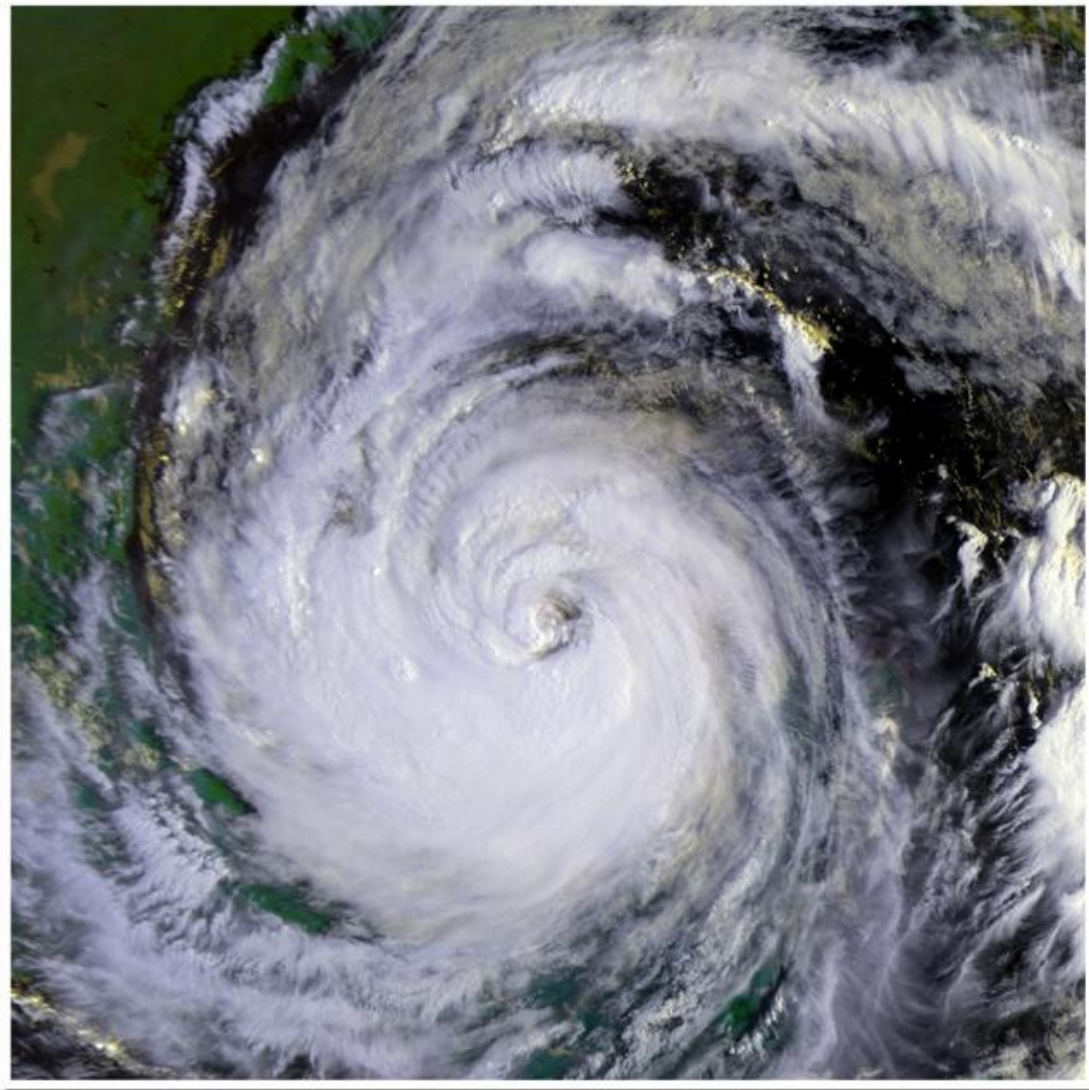
“Hurricanes recently are stronger than ever, and getting more numerous over time.”



Accumulated Cyclone Energy, ACE. Sum of V^2 over all tropical cyclones, storms and hurricanes, every six hours, each day, every month, then plotted.

X-Axis: Time from 1 Jan 1970 to the present. Y-Axis: ACE every month. Multidecadal changes, but no trend. Not related to atmospheric $\langle \text{CO}_2 \rangle$

On 16 Sep 1988 Hurricane Gilbert hit Mexico with winds close to 200 MPH, and an all time record low barometric pressure of 26.13 inches.



Live Science > Planet Earth

US in Longest 'Hurricane Drought' in Recorded History

By Laura Geggel, Senior Writer | May 4, 2015 07:13am ET

f 987

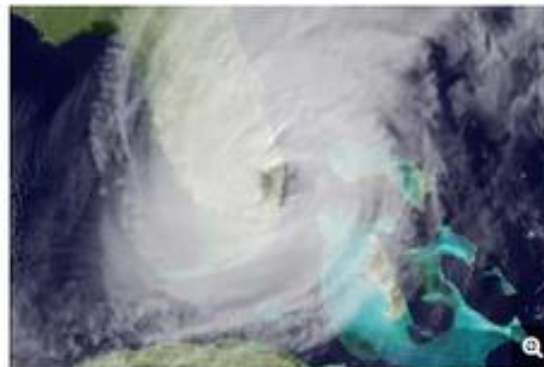
212

F

reddit

stumbleupon

MORE ▼



Hurricane Wilma seen by satellite as it crossed Florida in October 2005. Wilma was a Category 3 storm when it made landfall in the state and is the last major hurricane to hit the U.S. since that time.

Credit: NOAA/NASA

In a stroke of luck, no major hurricanes rated Category 3 or higher have struck U.S. soil during the past nine years, a new study finds.

This is the country's longest "hurricane drought" in recorded history, or since 1851, the researchers said. The previous record lull lasted eight years, from 1861 to 1868, they said.

Hurricane Wilma, a hurricane that hit Florida in 2005, was the last Category 3 storm to make landfall in the United States. Other storms — including Hurricane Ike (Category 2, 2008), Hurricane Irene (Category 1, 2011) and [Hurricane Sandy](#) (Category 1, 2012) — caused significant damage, but their winds weren't as strong. [\[A History of Destruction: 8 Great Hurricanes\]](#)



FRANKLIN AND OIL CITY, PA., FRIDAY, SEPTEMBER 15, 1944.

700 Miles of Atlantic Coast Line Suffers in Fierce Hurricane Blow

Winds Approaching Velocities of 100 Miles Per Hour Lash Norfolk, Atlantic City and New York; Jersey Resort is Hardest Hit.

BULLETIN.

BOSTON, Sept. 15.—UP—The tropical hurricane which battered 900 miles of the Atlantic coast, littered a half dozen big cities and 11 states with debris, took 22 lives, and caused damage estimated at \$30,000,000, was expiring today somewhere off the coast of Nova Scotia.

The famous resort, Atlantic City, N. J., was worst hit but the east's three principal coastal cities, New York, Philadelphia and Boston, were lashed by high winds.

ATLANTIC CITY DAMAGE PUT AT FOUR MILLIONS

Famous Piers Take Bad Pounding; Sections of Boardwalk Ripped Out by Big Waves.

ATLANTIC CITY, N. J., Sept. 15.—UP—This glittering resort city was a mass of debris today as it began the job of erasing the devastation of the Atlantic coast hurricane.

In Atlantic City alone two were killed by the storm which raged up 900 miles of the Atlantic coast to Maine. More than 50 others were injured here and damage was estimated at more than \$4,000,000.

The resort's fabulous piers took the worst pounding in the hurricane which reached its peak along the Jersey coast last night. The Steel Pier was buckled in the middle, and the Million Dollar Pier and its smaller neighbors suffered heavy damage.

Waves, whipped to a height of 20 feet by 75-mile-an-hour gales, battered out sections of the Boardwalk and sent the Atlantic Ocean swirling into mid-city streets.

At nearby Ocean City, almost all

<https://realclimatescience.com/2017/09/this-day-in-1944-hurricane-damaged-700-miles-of-coast/>

THE MORNING NEWS

VOL. XLVIII—NO. 12—ESTABLISHED September 7, 1891

DANVILLE, PA., FRIDAY, SEPTEMBER 15, 1944

PRICE—Single Copies 5 Cents
By Mail 10 Cents a Week

RAGING HURRICANE STRIKES S. NEW ENGLAND

501 JAP PLANES, 173 VESSELS KNOCKED OUT BY U.S. FLIERS

McArthur's Troops Land On N. Tip Of Halmahera Group

Maps Take Severest Beating Since The Start Of The War

Operation Started When American Carrier Planes Swept Over The Southern Philippines Last Friday, Wiping Out The Jap

US 1st Army Troops Extend 7-Pronged Drive In Germany

Schnozzle With a Lethal Sneeze



100-Mi. Wind-Belt Riding Along With Killer Hurricane; Damage Big In Atlantic City

MOVES OUT TO SEA

Boston, Sept. 15 (AP)—The Weather Bureau at Boston reports that the tropical hurricane that roared through New England blew out to sea early this morning. Shortly after the storm center passed over South Weymouth, the Weather Bureau said, it veered and left the coast.

At Boston, the Massachusetts Adjutant-General's Office reported that the "greatest damage has now been done." High winds were reported until about 5 a.m.

Hurricane Leaves A Path Of Destruction Along The Atlantic Coastal Area Stretching From New York To North Carolina; Steel Pier In Atlantic Is Snapped In Two, And The City Flooded, Injuring 50 Persons; Thousands Of Roofs Torn Off; Damage Is Estimated At \$4,000,000

New York, Sept. 14 (AP)—A tropical storm, swelling to a hurricane in sweeping toward a major city. All electric power has been turned off. New England, Atlantic states, where it left about noon, had received little notice.

https://en.wikipedia.org/wiki/1944_Great_Atlantic_hurricane

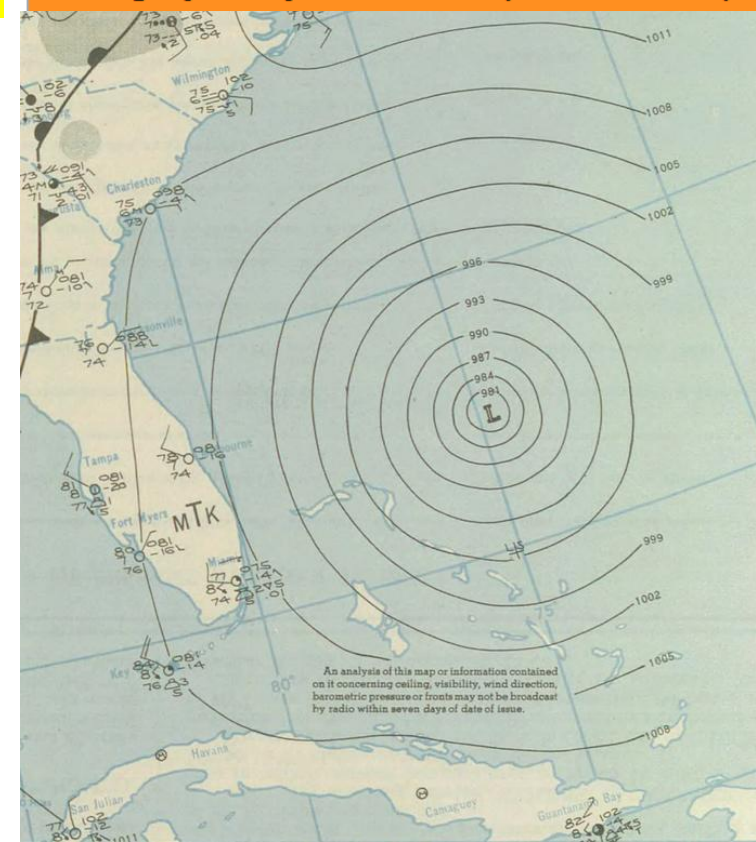
The **1944 Great Atlantic hurricane** was a destructive and powerful [tropical cyclone](#) that swept across a large portion of the [United States East Coast](#), September 1944. Impacts were most significant in [New England](#), though significant effects were also felt along the [Outer Banks](#), [Mid-Atlantic states](#), and the [Canadian Maritimes](#). Due to its ferocity and path, the storm drew comparisons to the [1938 Long Island Express](#), known as one of the worst storms..New England history.

...the [Harvey Cedars](#) section of Long Beach Island... many homes in the town were swept out to sea.



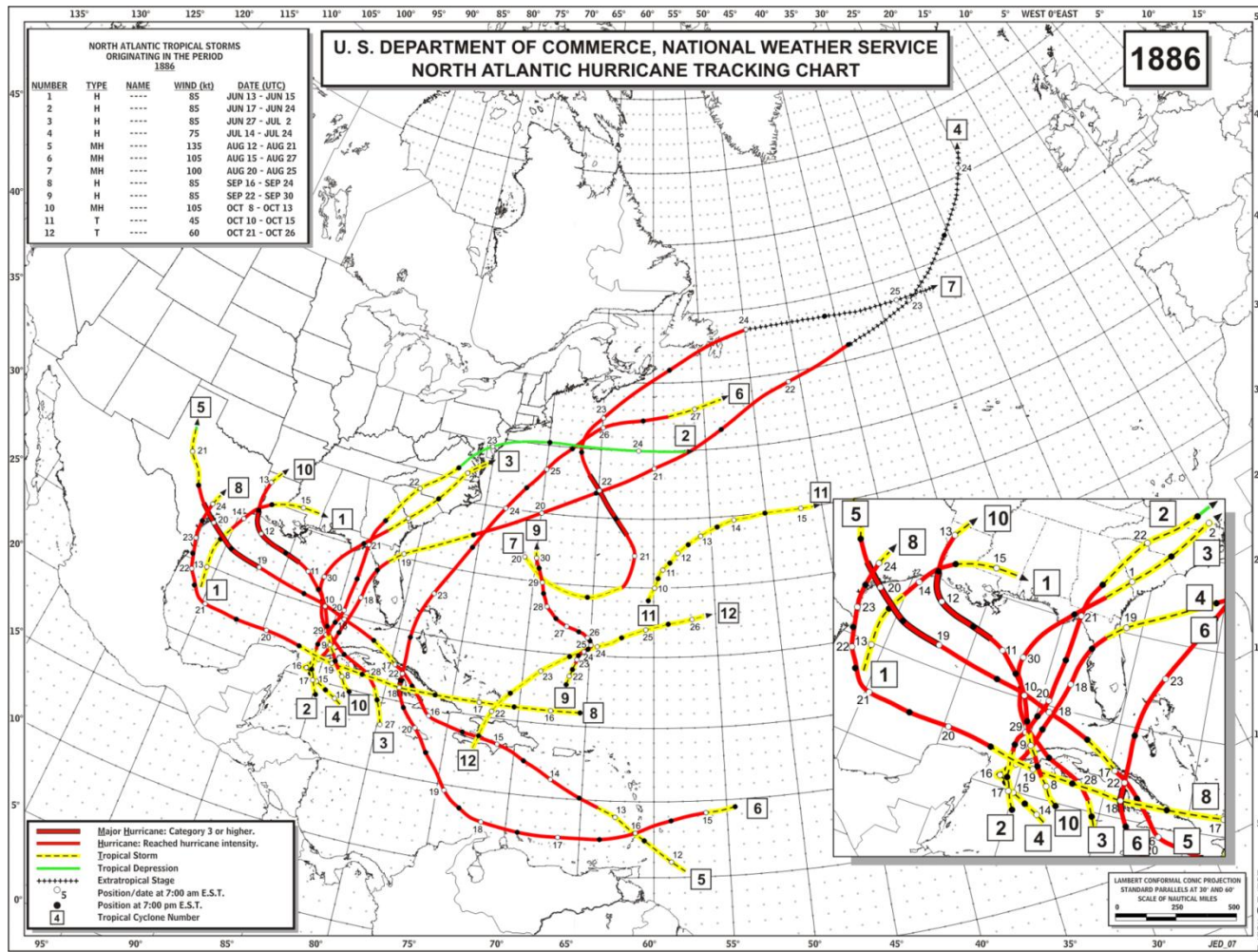
1944 Great Atlantic hurricane

Category 4 major hurricane (SSHWS/NWS)



https://en.wikipedia.org/wiki/1886_Atlantic_hurricane_season

1886 : America's Busiest Hurricane Season: Posted on [September 13, 2017](#)
The US was hit by **seven hurricanes** in 1886, the only year that has happened.
Three of those hurricanes occurred in June, which never happens any more.
Three locations in the US were hit by two hurricanes.
Texas...hit by four hurricanes... Florida...hit by three hurricanes. **<added>**



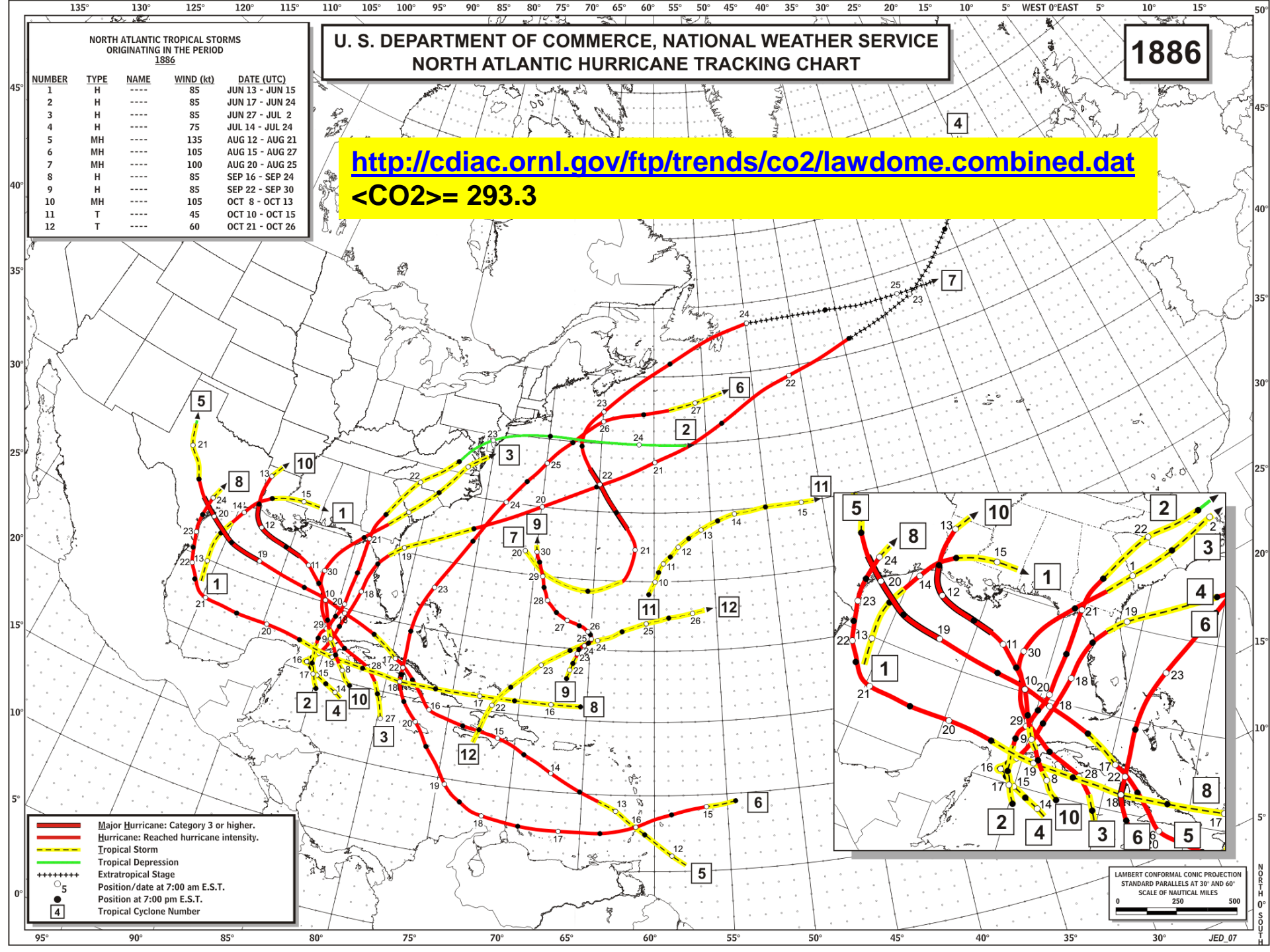
NORTH ATLANTIC TROPICAL STORMS
ORIGINATING IN THE PERIOD
1886

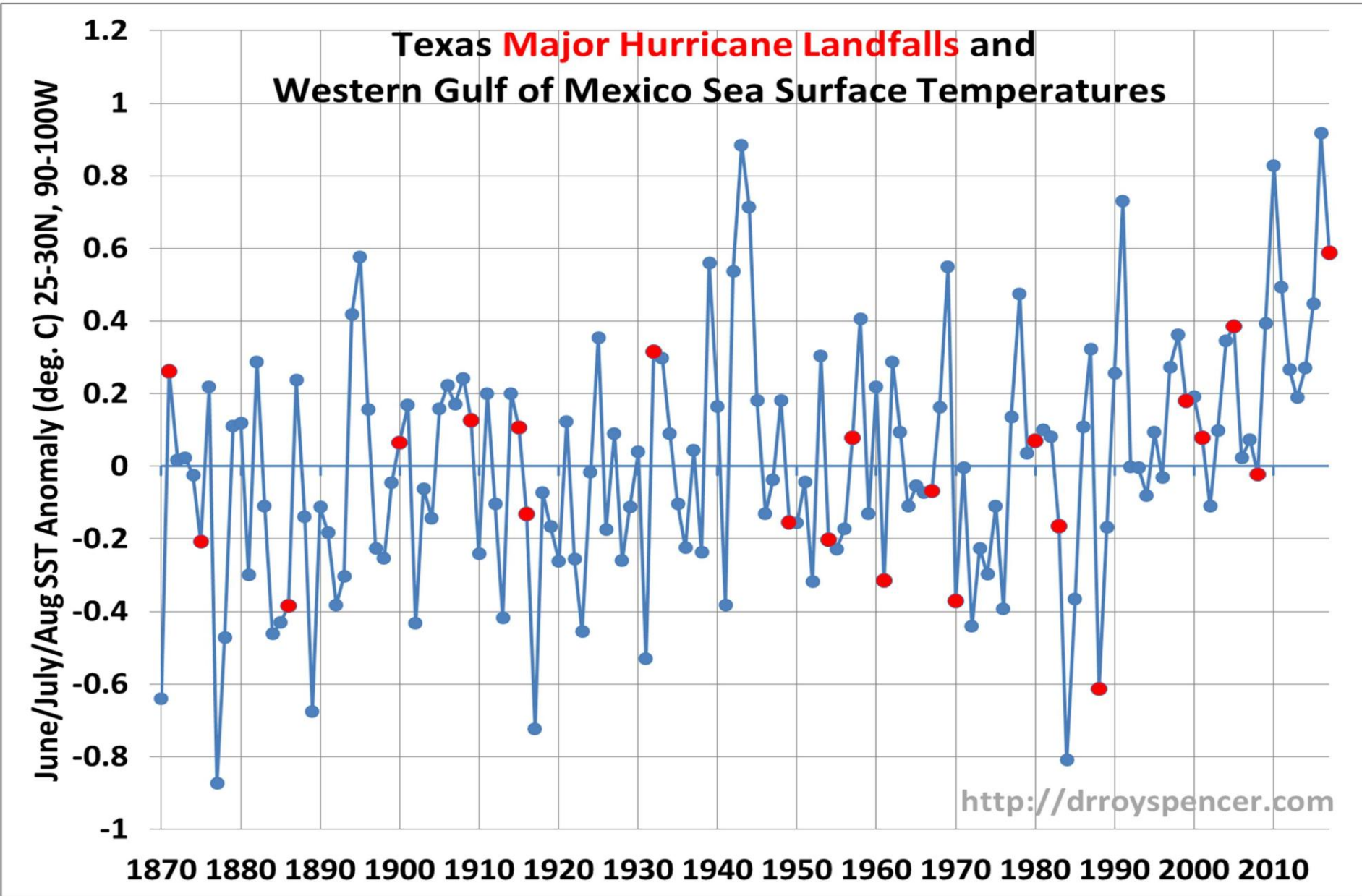
NUMBER	TYPE	NAME	WIND (kt)	DATE (UTC)
1	H	----	85	JUN 13 - JUN 15
2	H	----	85	JUN 17 - JUN 24
3	H	----	85	JUN 27 - JUL 2
4	H	----	75	JUL 14 - JUL 24
5	MH	----	135	AUG 12 - AUG 21
6	MH	----	105	AUG 15 - AUG 27
7	MH	----	100	AUG 20 - AUG 25
8	H	----	85	SEP 16 - SEP 24
9	H	----	85	SEP 22 - SEP 30
10	MH	----	105	OCT 8 - OCT 13
11	T	----	45	OCT 10 - OCT 15
12	T	----	60	OCT 21 - OCT 26

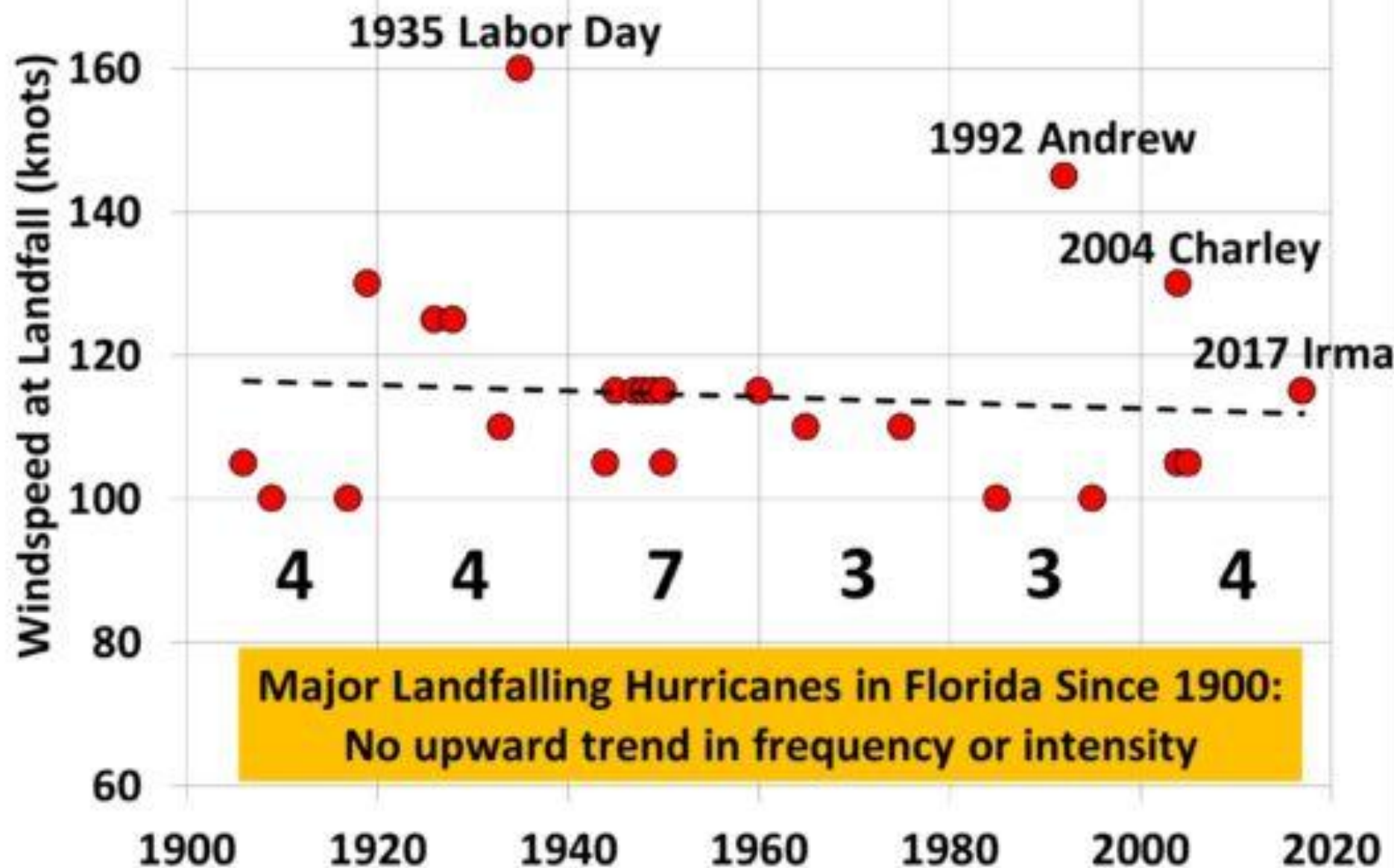
U. S. DEPARTMENT OF COMMERCE, NATIONAL WEATHER SERVICE
NORTH ATLANTIC HURRICANE TRACKING CHART

1886

<http://cdiac.ornl.gov/ftp/trends/co2/lawdome.combined.dat>
<CO2>= 293.3







Is CO₂
(being added to the atmosphere by fossil fuels)
harmful?

Adding more CO₂ to the air will result in a little warming (all other things being equal)

**But, climate is always changing on its own
...so can't have all other things being equal**

**Maybe 1C warming for a doubling of <CO₂>, BUT
TEMPERATURE controls <CO₂> (Henry's Law)**

<https://www.usatoday.com/story/weather/2015/05/20/cold-weather-deaths/27657269/>



NEWS SPORTS LIFE MONEY TECH TRAVEL OPINION  75° CROSSWORDS M

Study: Cold kills 20 times more people than heat

Doyle Rice, USA TODAY Published 6:32 p.m. ET May 20, 2015 | Updated 9:07 a.m. ET May 21, 2015

“ Cold weather ...20 times as deadly as hot weather... it's not the extreme low/high temperatures that cause...most deaths...study...published Wednesday.

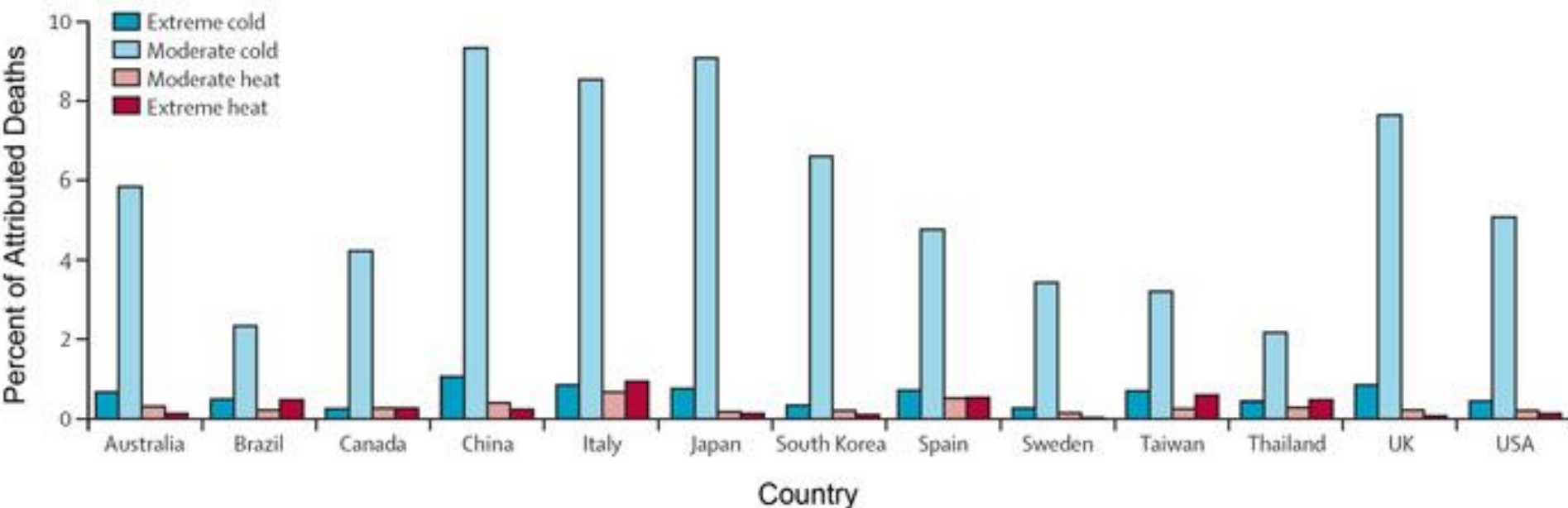
Majority of deaths occurred on moderately hot and moderately cold days instead of during extreme temperatures.

“... risk of mortality due to extremely cold or hot days is actually higher, they are less frequent,”
...author Antonio Gasparrini, London School of Hygiene & Tropical Medicine.

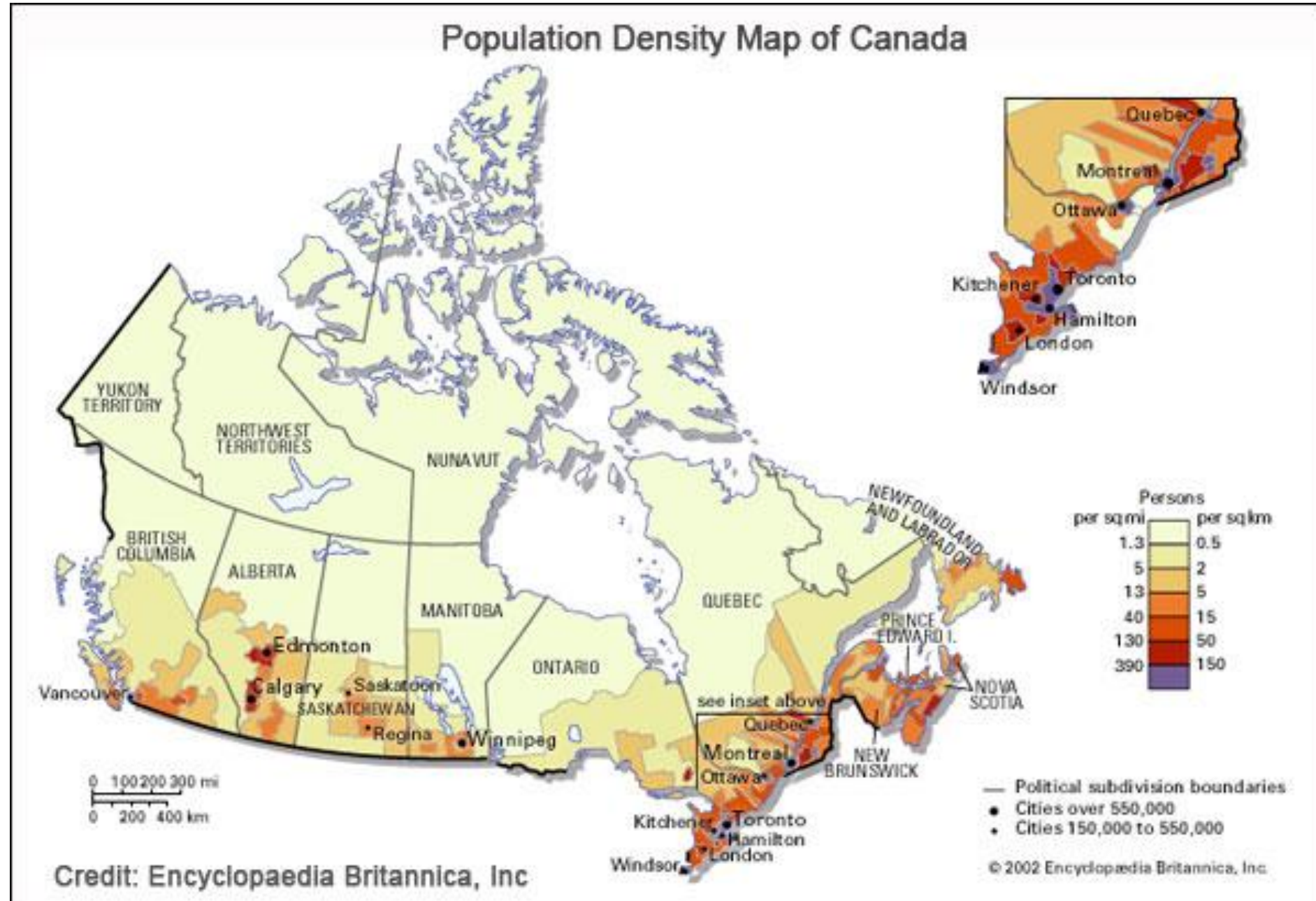
The study...(was)...published in the British journal *The Lancet*...

Cold waves kill many more people than heat waves.

Percent of Deaths Due to Moderate and Extreme Episodes of Heat and Cold



Fraction of all-cause mortality attributable to moderate and extreme hot and cold temperature by country. (Source: Gasparrini et al., 2015).



Is CO2 (being added to the atmosphere by fossil fuels) harmful?

To the contrary; fossil fuel use enriches the atmosphere with this life-sustaining gas.

Craig Idso's many points on this:

Web site: <http://www.co2science.org/>

Two-minute video <https://youtu.be/P2qVnK6zFgE>

https://youtu.be/Gzn9tXp_v34 Presentation at ICC-12

Book:

<https://www.amazon.com/Many-Benefits-Atmospheric-CO2-Enrichment/dp/0981969429>

Plant Growth Data base: http://www.co2science.org/data/plant_growth/plantgrowth.php

< Medieval Warm Period Project: <http://www.co2science.org/data/mwp/mwpp.php> >

Climate Change Reconsidered: Lead Author (with late Robert Carter and Fred Singer)

<http://climatechangereconsidered.org/>

<https://youtu.be/P2qVnK6zFgE>

Time-Lapse Video Day 5



450 ppm

1270 ppm

▶ ▶| 🔊 0:29 / 2:13



More CO₂ will be a very significant benefit to agriculture!
Many of these slides came from Dr. Will Happer of Princeton.

See his essay at

<https://thebestschools.org/special/karoly-happer-dialogue-global-warming/happer-major-statement/#top>



CO₂ is not a pollutant!



Power plant's breath:

70% N₂
5% O₂
5% H₂O
20% CO₂



Alice's breath:

75% N₂
15% O₂
6% H₂O
4% CO₂

Fig 3. Main components of exhaust gases of a modern power plant are similar to components of human breath

Is CO₂ Plant Food?

Here is what happens with more CO₂



385 ppm



535 ppm



685 ppm



835 ppm

Experimental Plots for Measuring Response to CO₂ Enrichment



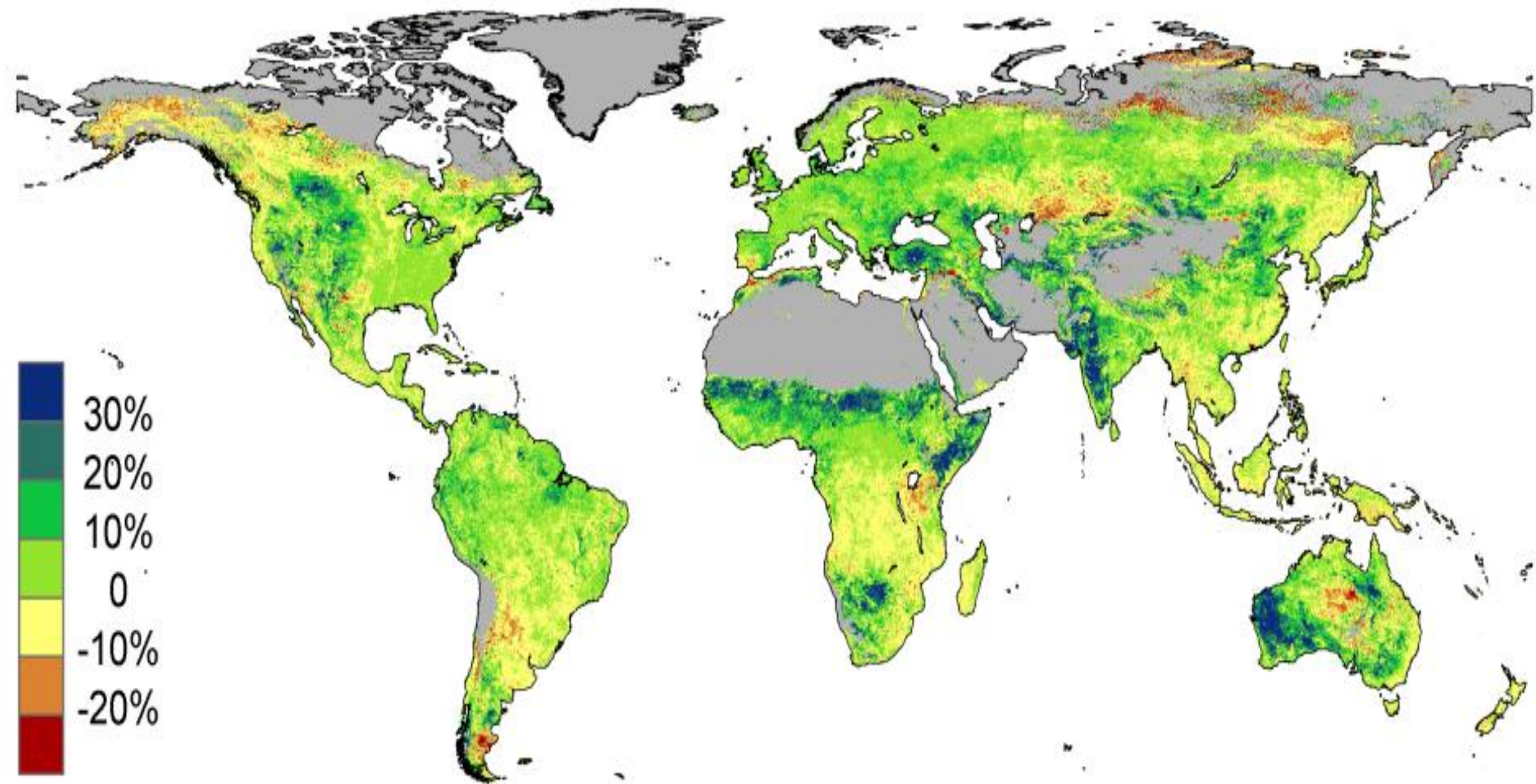
CO2 Enrichment of Greenhouses



Typical sales pitch: “CO2 enrichment at 2, 3, and 4 times natural concentration will cause plants to grow faster and improve plant quality. ... The **** generator automatically provides the carbon dioxide to meet maximum growing potential.”

Cost < \$1000 plus cost of propane.

Global Greening From CO2 Fertilization: 1982-2010



Increase = 11% in areas studied

Donohue et al, GRL (June 2013) DOI: 10.1002/grl.50563

Carbon starvation in glacial trees recovered from the La Brea tar pits, southern California

Joy K. Ward^{**}, John M. Harris[§], Thure E. Cerling^{†¶}, Alex Wiedenhoeft[‡], Michael J. Lott[†], Marla-Denise Dearing[†], Joan B. Coltrain^{**}, and James R. Ehleringer[†]

^{*}Department of Ecology and Evolutionary Biology, University of Kansas, 1200 Sunnyside Avenue, Lawrence, KS 66045; [†]Department of Biology, University of Utah, 257 South 1400 East, Salt Lake City, UT 84112-0840; [§]The George C. Page Museum of La Brea Discoveries, 5801 Wilshire Boulevard, Los Angeles, CA 90036; [‡]Department of Geology and Geophysics, University of Utah, 135 South 1460 East, Salt Lake City, UT 84112; [¶]Forest Products Laboratory, U.S. Department of Agriculture Forest Service, One Gifford Pinchot Drive, Madison, WI 53726-2398; and ^{**}Department of Anthropology, University of Utah, 270 South 1400 East, Salt Lake City, UT 84112

The Rancho La Brea tar pit fossil collection includes *Juniperus* (C3) wood specimens that ¹⁴C date between 7.7 and 55 thousand years(kyr) B.P., providing a constrained record of plant response for southern California during the last glacial period...

... Atmospheric CO₂ concentration ([CO₂]) ranged between 180 and 220 ppm during glacial periods, rose to 280 ppm before the industrial period, and is currently approaching 380 ppm in the modern atmosphere...

... As a result, glacial trees... indicating that glacial trees were undergoing carbon starvation.

emphasis added



http://www.co2science.org/data/plant_growth/plantgrowth.php

Plant Growth Database

Donate



OCEAN ACIDIFICATION DATABASE



DO PLANTS LIKE MORE CO₂?



SEARCH BY TOPIC

A B C D E E G H I J K L M
N O P Q R S T U V W X Y Z

In this section of our web site we maintain an ever-expanding archive of the results of peer-reviewed scientific studies that report the growth responses of plants to atmospheric CO₂ enrichment. Results are tabulated according to two types of growth response (Dry Weight and Photosynthesis). To begin, click on the response you are interested in below.

[Dry Weight \(Biomass\)](#)

[Photosynthesis \(Net CO₂ Exchange Rate\)](#)





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Plant Dry Weight (Biomass) Responses to Atmospheric CO2 Enrichment

C

Plant Name	300 ppm			600 ppm		
	Number of Studies	Arithmetic Mean	Standard Error	Number of Studies	Arithmetic Mean	Standard Error
C4 Grass [<i>Cleistogenes squarrosa</i>]	2	24.5%	17.3%			
Cabbage [<i>Brassica oleracea</i>]	11	47.2%	8.2%	9	59.6%	11.7%

This says that an enrichment of 300 Parts Per Million CO2 INCREASES the biomass of cabbage by over 47%!

Plant Dry Weight (Biomass) Responses to Atmospheric CO2 Enrichment

C

Plant Name	300 ppm			600 ppm			900 ppm		
	Number of Studies	Arithmetic Mean	Standard Error	Number of Studies	Arithmetic Mean	Standard Error	Number of Studies	Arithmetic Mean	Standard Error
<u>C4 Grass [Cleistogenes squarrosa]</u>	2	24.5%	17.3%						
<u>Cabbage [Brassica oleracea]</u>	11	47.2%	8.2%	9	59.6%	11.7%			
<u>Cajanus cajan [Pigeon Pea]</u>	6	68.8%	14.1%						
<u>Calamagrostis angustifolia [Reed Grass]</u>	24	14.8%	2.1%						
<u>Calamagrostis purpurea [Scandinavian Small Reed]</u>	2	18%	7.8%						
<u>Calamagrostis epigeios [Chee Reedgrass]</u>	2	98.5%	0.4%						
<u>Calcidiscus leptoporus [Marine Coccolithophore]</u>	2	18.5%	3.2%						
<u>Calluna vulgaris [Heather]</u>	9	17.1%	5.4%						
<u>Camphorweed [Heterotheca subaxillaris]</u>	1	20%	0%						
<u>Canada Cocklebur [Xanthium strumarium]</u>	7	30.6%	6.4%						
<u>Canary Grass [Phalaris arundinacea]</u>	8	34.3%	12.1%						
<u>Cantaloupe [Cucumis melo]</u>	3	4.7%	0.7%	3	13.7%	1.8%	3	34.3%	4.4%
<u>Capsicum annuum [Sweet Pepper]</u>	2	53%	9.9%						
<u>Capsicum chinense [Yellow Lantern Chili]</u>	1	49%	0%				1	168%	0%
<u>Caragana microphylla [Littleleaf Peashrub]</u>	1	19%	0%						



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Other biomass gains, by crop, with 300 PPM over ambient <CO₂>

Sweet Pepper 53%

Sweet Cherry 60%

Sweet Orange 38%

Corn 27%

Cucumber 49%

Red Raspberry 100%

Rice 36%

Common Wheat 36%

Soybean 46%

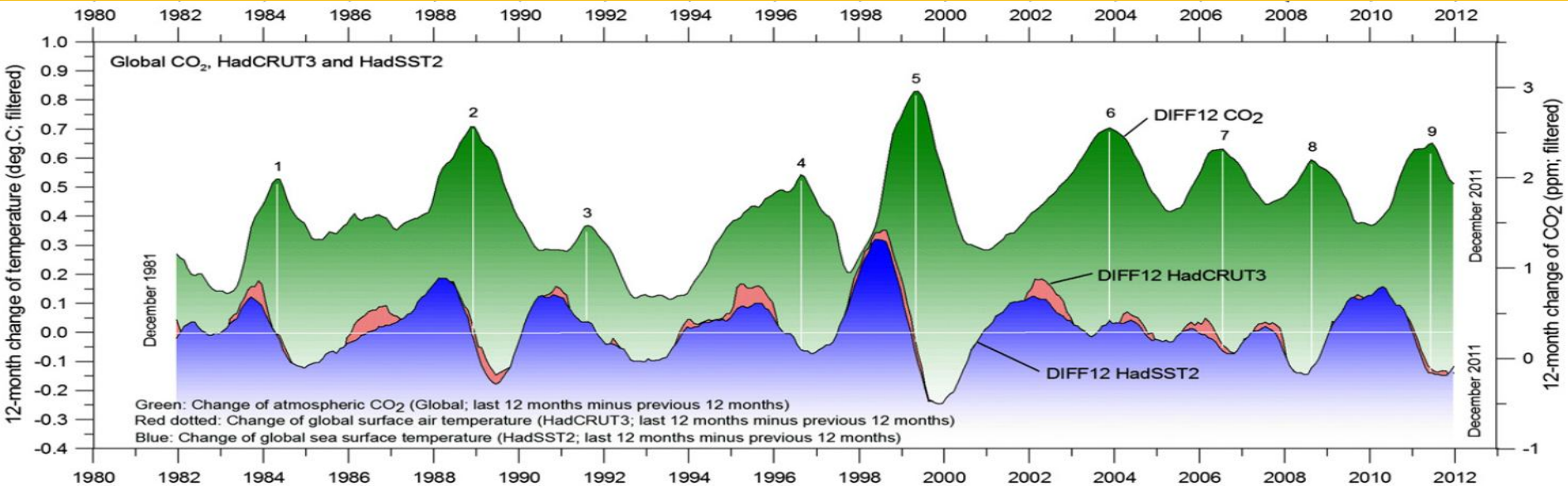
Sugarcane 34%



Carbon-based life forms

Climate Short

Henry's Law, from 175 years ago: Temperature Controls <CO₂>



Bob Endlich

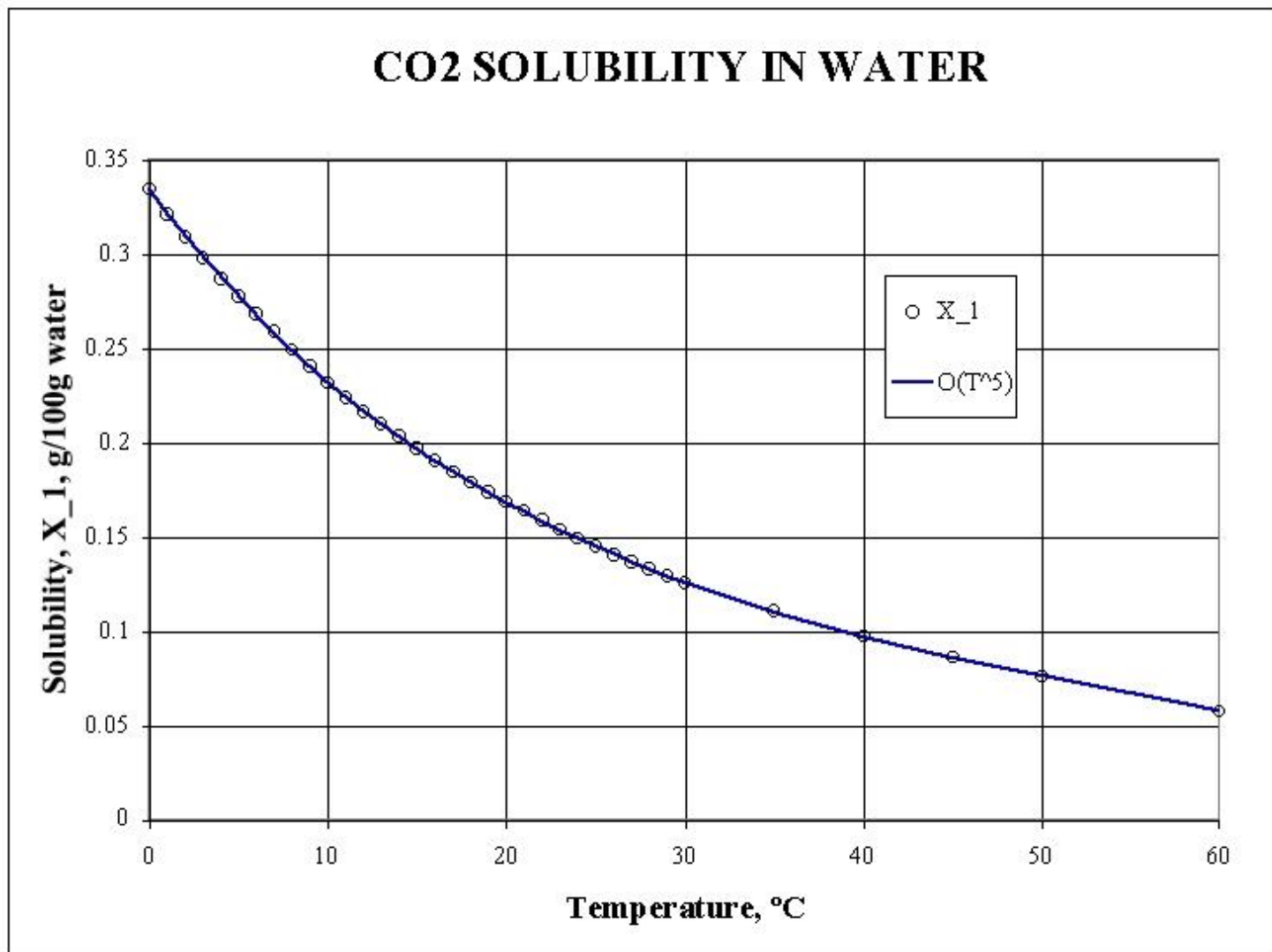
bendlich@msn.com

12 Sep 2017

Weather, Climate and Climate Change—What the Data Say

Henry's Law applied to CO₂ and Water:

As the **temperature of the water increases**, the ability of water to hold CO₂ in solution **decreases**, and the CO₂ is given off into the atmosphere.



X-Axis: Water Temperature

Y-Axis: CO₂ Solubility

Henry's Law, named for William Henry, British chemist

Loosely, where temperatures and pressures in the water and air are those commonly found at Earth's surface,

“In aqueous solution, as the temperature of the solution increases, dissolved gases in the solution are driven into the air until the partial pressure of the gas in the air matches its pressure in the solution, ” and conversely.

Ocean, lake and river waters contain dissolved air.

Air is: 78% Nitrogen, 21% Oxygen, 1% Argon, and now, 407 parts/million CO₂.

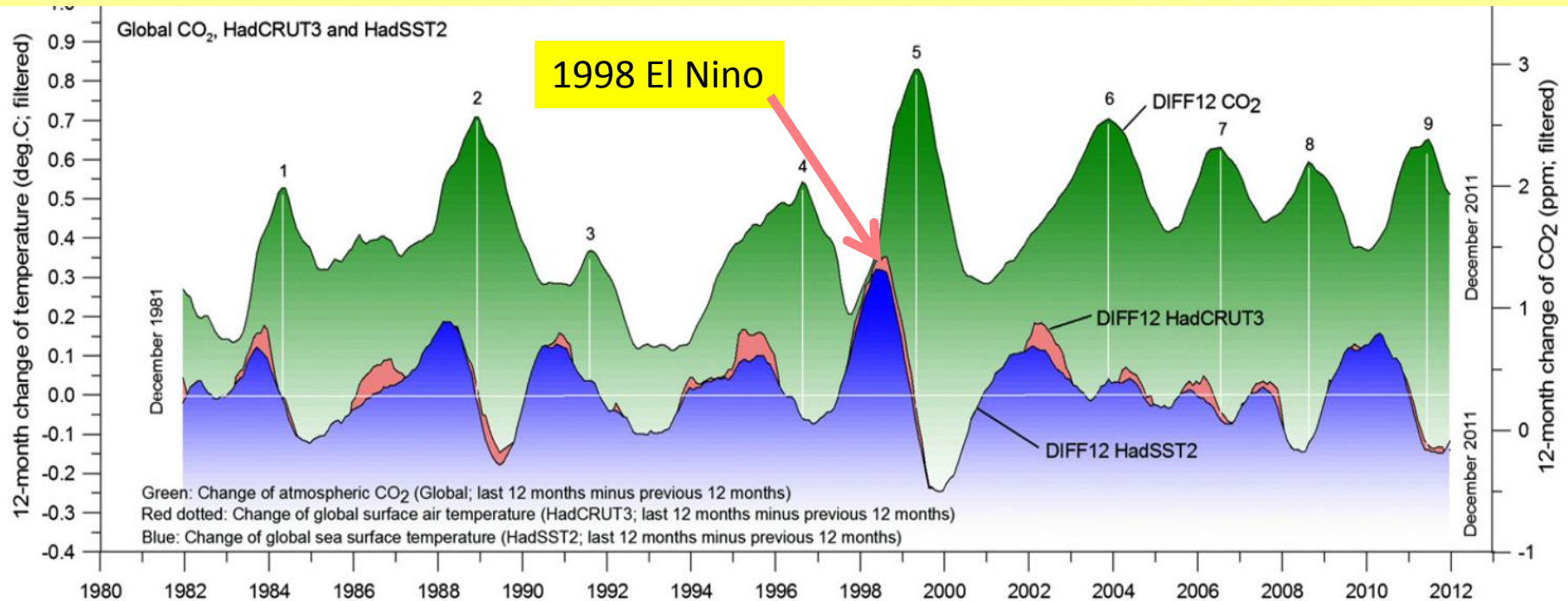
This means the TEMPERATURE of WATER bodies at Earth's surface containing dissolved air determine, to first approximation,

whether CO₂ goes from the water into the air <increasing water temperatures> for instance, Warm Western Pacific El Nino waters displacing cooler Pacific waters.

or,

whether CO₂ goes from air into the water <decreasing water temperatures> for instance, strong upwelling of cold water from West Coasts of North and South America.

the data show Henry's Law : **FIRST** ocean temperatures change, **THEN** atmospheric <CO₂> responds



X-Axis: Time, Years, starting 1980

Y-Axis: 12-month Change of **global atmospheric <CO₂> (NOAA; green)**

Y-Axis: **Global sea surface temperature (HadSST2; blue)**

Y-Axis: **Global surface air temperature (HadCRUT3; red dotted).**

Thin white horizontal is the Zero Change Line, from which 12-month differences are displayed.

Filtered values: (DIFF12, the difference between the average of the last 12 months and the average for the previous 12 months for each data series).

<https://www.researchgate.net/publication/257343053> The phase relation between atmospheric carbon dioxide and global temperature

Next Chart:

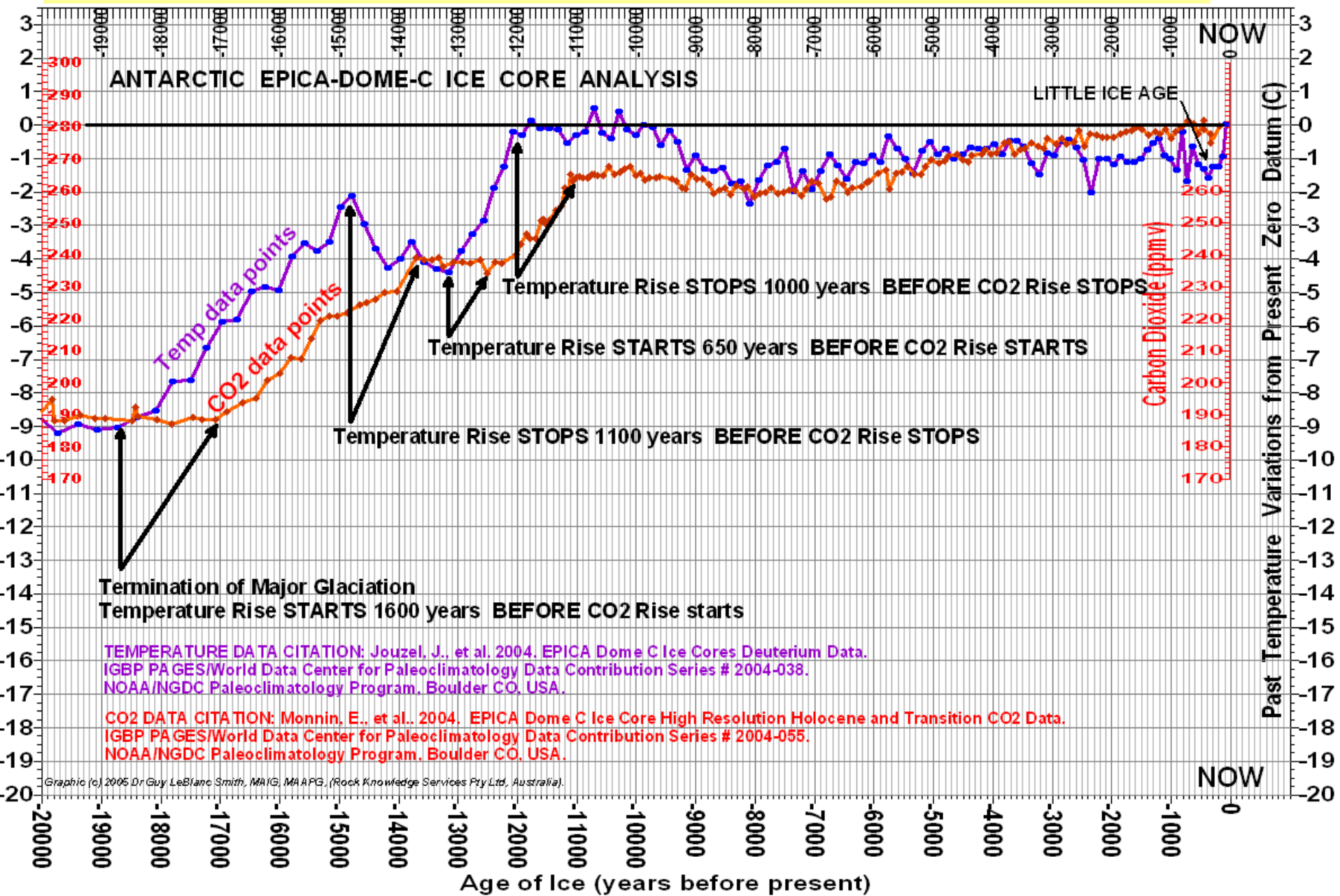
**Antarctic Ice Cores showing Temperature
and Carbon Dioxide over Time:**

X-Axis is time, from 20,000 years ago to NOW

Y axis, (purple) is Temperature over time

Y-Axis, (red) is Carbon Dioxide over time

Henry's Law explains the correlation between Temperature and CO2



Anther demonstration that atmospheric CO2 does NOT control temperature:

Next chart: Temp, CO2, and Dust over time from the **Vostok Ice Cores in Antarctica**

X-Axis, Time ~400,000 years, 4 glacials, 5 interglacials.

Y-Axis (Blue) Temperature. Present interglacial warm period, the Holocene, also called Marine Isotope Stage 1, MIS 1, is the coolest of the past 5 interglacials.

Y-Axis (Green) Atmospheric <CO2>

Present CO2 has risen from ~280 to over 400 PPM; this is off the chart.

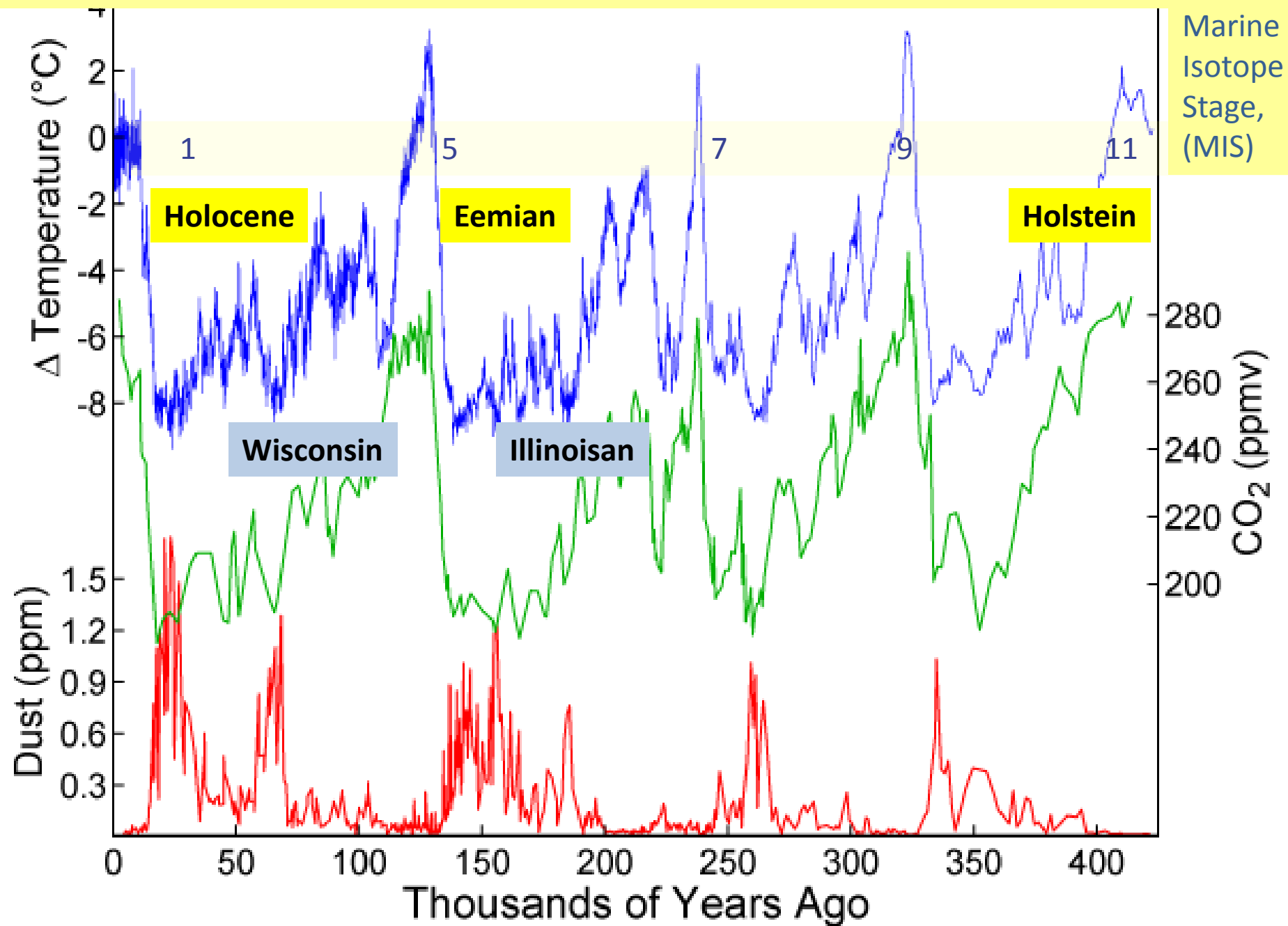
If CO2 controls temperature, this would be the hottest interglacial, but it is the coldest

The reason, Henry's Law.

Briefly, Temperature of the solution, sea water, controls amount of dissolved gases (N2, O2, Ar, and CO2) (air) in the solution

(we are concerned about sea water and atmospheric pressures at sea level, not in the soft drink or beer processing plant)

Catastrophic Global Warming posits that atmospheric <CO2> controls air temperature, clearly falsified by the data.



How to recognize “acceleration” in a graph

Do you know how to recognize “acceleration” in a graph, at a glance?

It is very simple. In a nutshell:

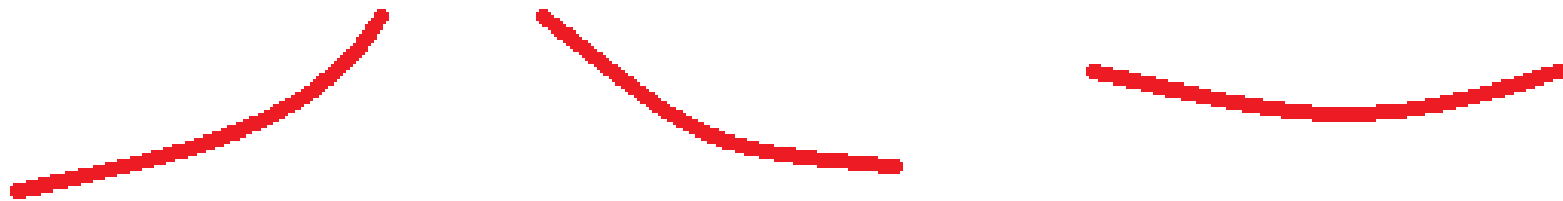
Neither concave-up nor concave-down. If the graph shows a **straight line**, then it is said to be “**linear**.” That means there is **no acceleration**, or “acceleration is zero.” Here are three examples:



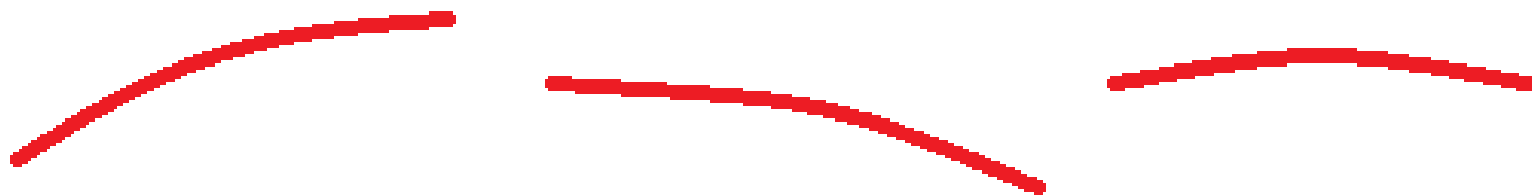
If that is unclear, Google will find some videos which explain it:

<https://www.google.com/search?q=what+does+acceleration+look+like+on+a+graph&tbm=vid>

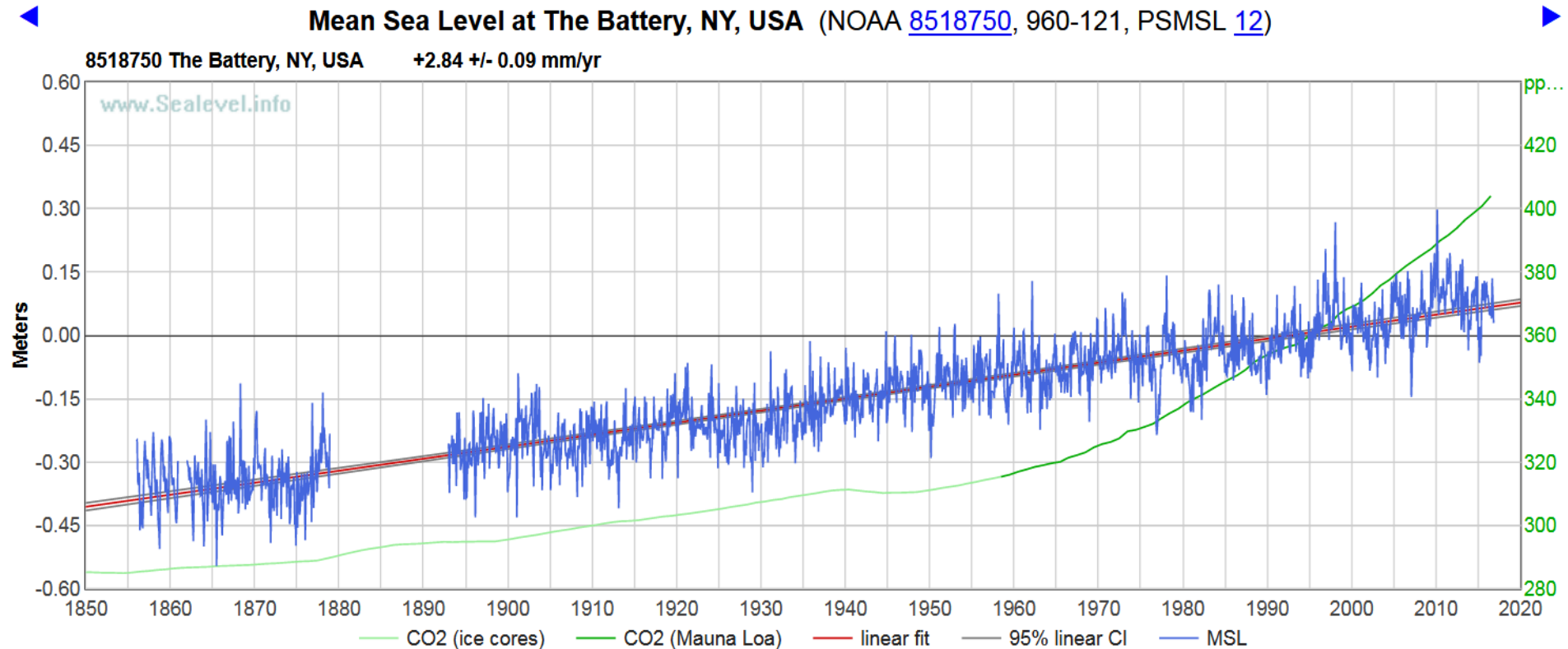
Concave-up. If the graph (with “time” or “age” represented by the horizontal “x-axis,” and “position” or “level” represented by the vertical “y-axis”) “**curves upward**” then it represents positive **acceleration** (regardless of whether the overall trend is upward or downward). Here are three examples:



Concave-down. If the graph (with “time” represented by the “x-axis”) “**curves downward**” then it represents **deceleration**, a/k/a “negative acceleration,” (regardless of whether the overall trend is upward or downward). Here are three examples:

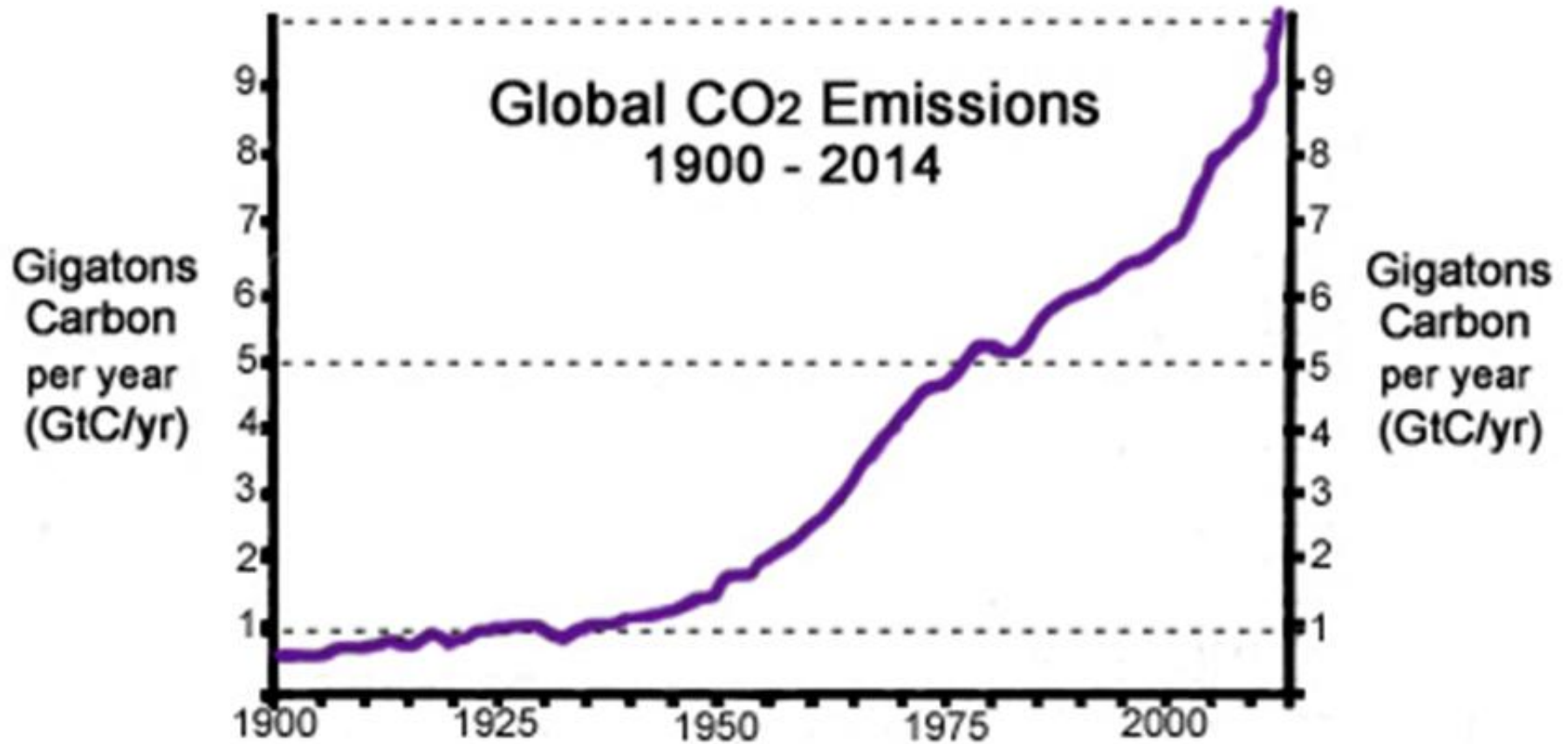


The Battery in Manhattan is one of the longest lived tide gage stations in the USA; the data begin in May, 1856, five years before the US' Civil War begins.



The rate of sea level rise in the over 160 years for which there are data show that the RATE IS UNCHANGED over this time. It's Linear!

Data show the assertion by the Guardian seems incorrect!

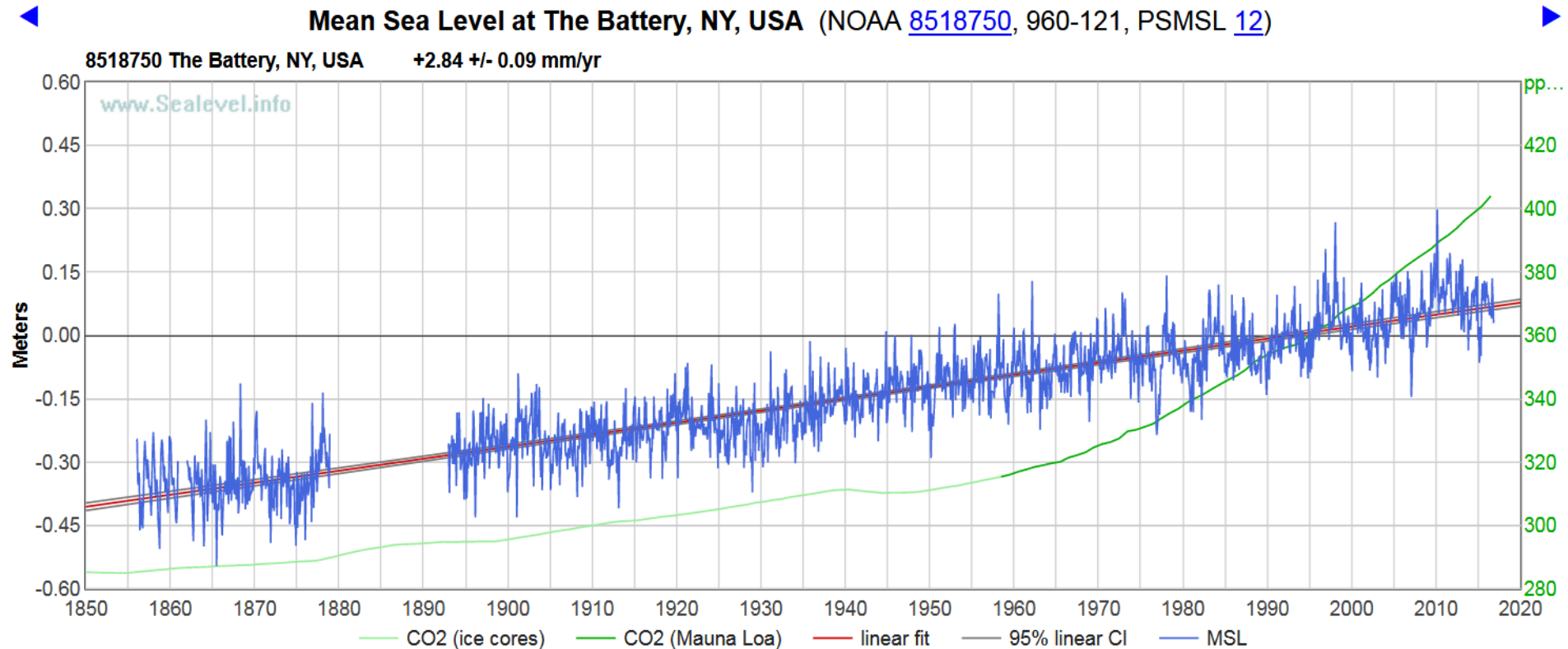


Fossil fuels consumption in particular and anthropogenic CO₂ emissions in general plodded along steadily at about 1 GtC/year (gigatons of carbon per year) during the 1900 to 1945 period.

Then, after 1945, human emissions exploded. They reached 4 GtC/year by the 1970s, 6 GtC/year by the 1990s, and 10 GtC/year by 2014.

<http://notrickszone.com/wp-content/uploads/2016/11/CO2-Emissions-1900-2014-GtC-per-year-ps-.jpg>




Previous slide: Consumption of fossil fuels world wide.
1gT CO₂ until 1940, increasing to 4gT CO₂ in 1970s, 10gT CO₂, 2014




The rate of sea level rise in the over 160 years for which there are data show that the RATE IS UNCHANGED over this time. It's Linear!

Data show the assertion by the Guardian seems incorrect!

The German Bight *Deutsche Bucht*


 German Bight  





German Bight


1.7 ★★★★★ - 3 reviews


Water


 Directions

 SAVE


 NEARBY

 SEND TO YOUR PHONE

 SHARE



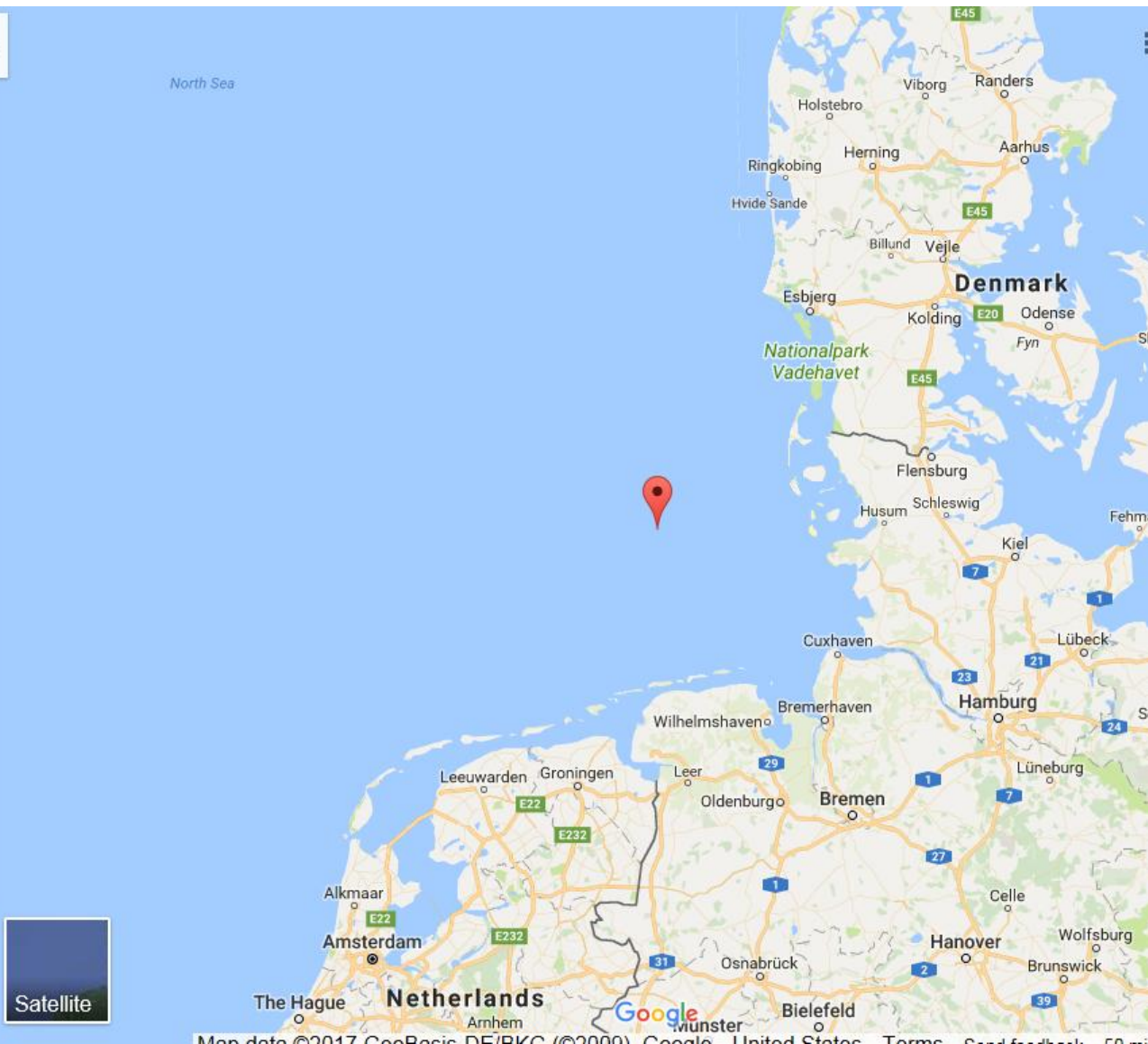
Photos

 Add a photo

[WRITE A REVIEW](#)

Quick facts

The German Bight is the southeastern bight of the North Sea bounded by the Netherlands and



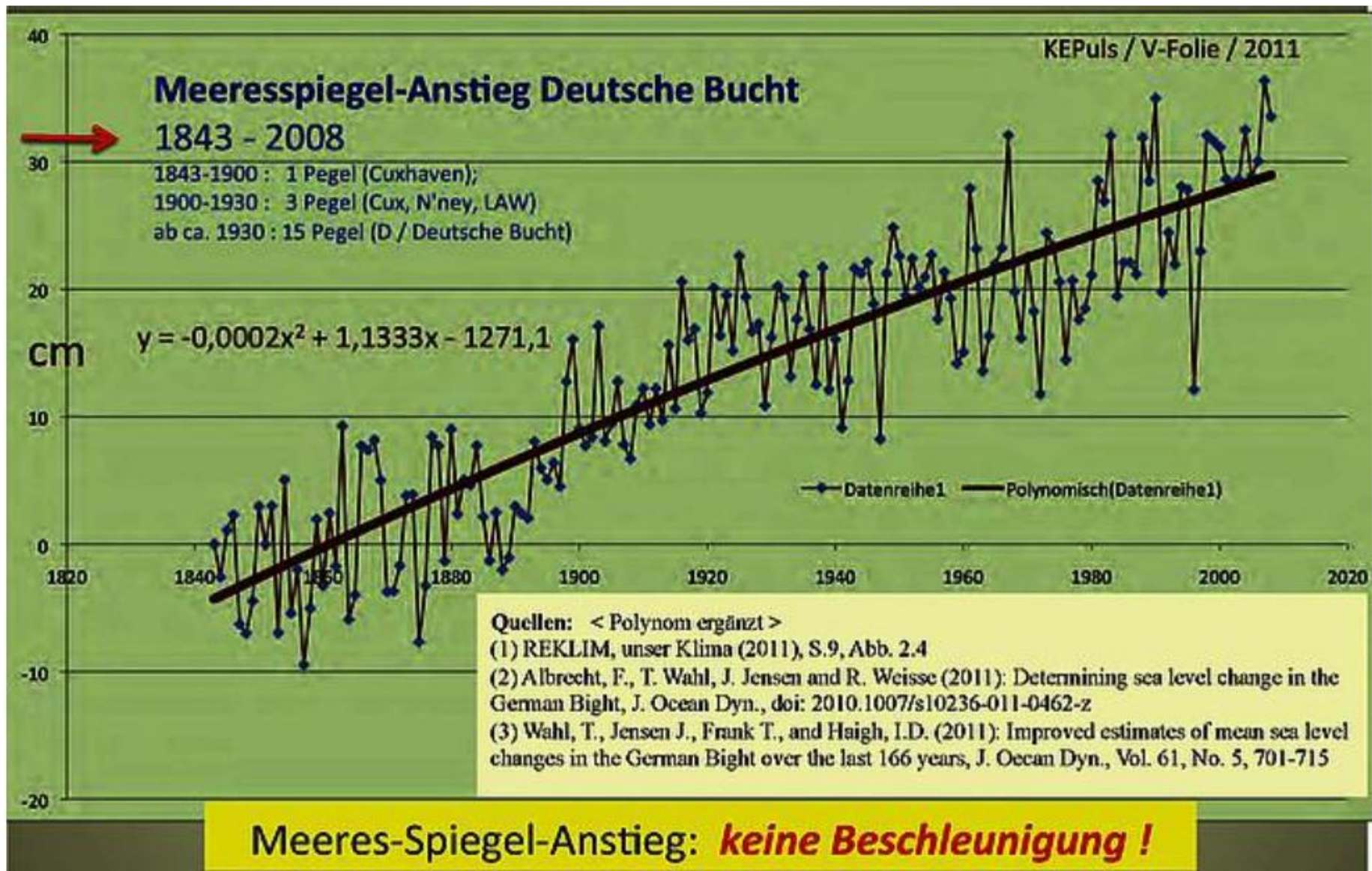


Abbildung 4

What about data from the German Bight across from England?

Auswertung von Küsten-Pegeln in der Deutschen Bucht (Daten [9])

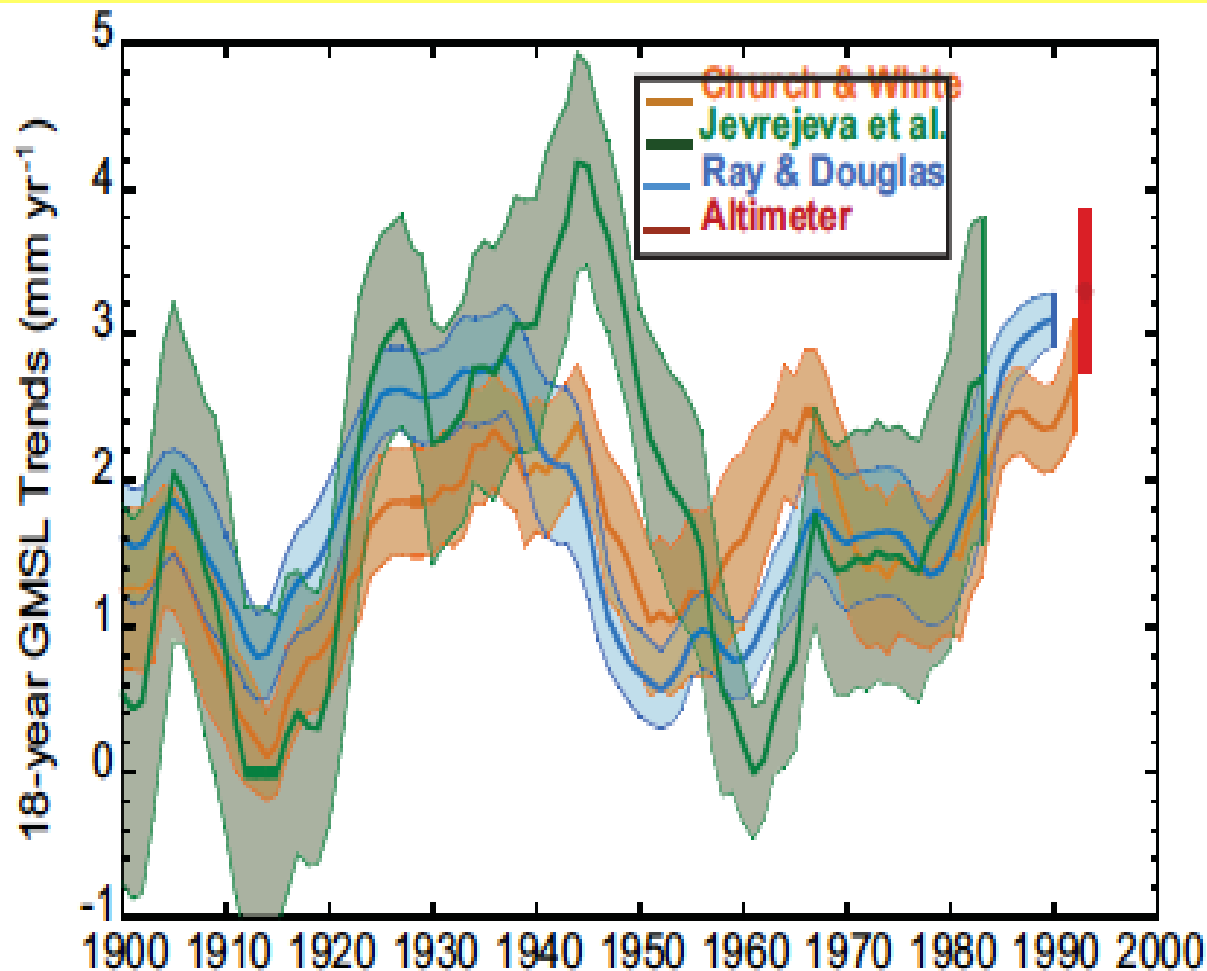


Figure 6. 18-year trends of global mean sea level rise estimated at 1-year intervals. The time is the start date of the 18-year period, and the shading represents the 90% confidence.

The estimate from satellite altimetry is also given, with the 90% confidence given as an error bar. [AR5 WGI Figure 3.14] 23

In 2006, Church and White published, “[*A 20th century acceleration in global sea-level rise.*](#)” It got huge press, and to this day it is still frequently cited as proof that man-made global warming is causing accelerated sea-level rise.

However, their reported error bar for the amount of acceleration they found for the 20th century as a whole went all the way down to zero, and one detail that their paper didn’t mention was that *all* of the acceleration they found was prior to 1925 — which means it was almost certainly unconnected to anthropogenic GHG emissions.

In 2009, Church and White posted a new data set on their web site, but, mysteriously, published no paper about it.

I wondered about that, so I reproduced their 2006 calculations using their 2009 data.

Guess what? All the 20th century acceleration was gone.

I shared my results with Drs. Church & White, and on June 18, 2010, Dr. Church cordially replied, confirming my analysis:

“For the 1901 to 2007 period, again we agree with your result and get a non-significant and small deceleration.”

Underlining added.

The IPCC AR5 then concludes:

*“It is **very likely** that there is a substantial contribution from anthropogenic forcings to the global mean sea level rise since the 1970s.”*

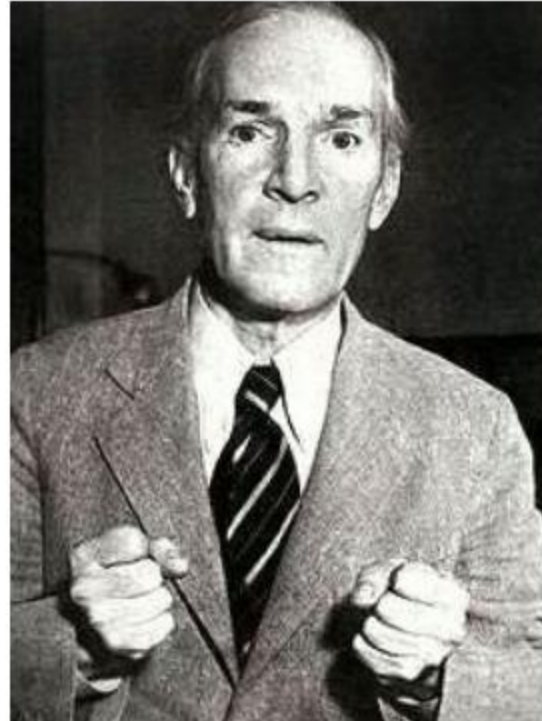
Global sea level has been rising for the past several thousand years.

The key issue is whether the rate of sea level rise is accelerating owing to anthropogenic global warming.

It is seen that the rate of rise during 1920-1950 was comparable to, if not larger than, the value in recent years (a period contributing less than 10% of the human caused CO2 emissions since 1900).

Hence the data does not seem to support the IPCC's conclusion of a substantial contribution from anthropogenic forcings to the global mean sea level rise since the 1970s

"It is difficult to get a man to understand something, when his salary depends upon his not understanding it!"



Upton Beall Sinclair, Jr. (September 20 1878 – November 25 1968)